

The Times and Register.

Vol. XXIV, No. 11.

NEW YORK AND PHILADELPHIA, MARCH 12, 1892.

Whole No. 705.

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Original Articles.

SCARLET FEVER. "SCARLET RASH."

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SCARLET fever is an infectious disease, due to a specific micro-organism (Klein), characterized by a peculiar exanthem more or less diffused over the entire surface of the body, an angina of variable intensity, and fever varying from a slight thermometric increase to one whose intensity is so great as to speedily destroy life. It is irregular in form, intensity and prevalence. These diversities are exhibited in individual cases and in the constitution of epidemics.

The antiquity of scarlet fever is undoubtedly, classical writers have described epidemics of a disease which devastated whole cities, these descriptions are in certain cases sufficiently accurate as to note that they were probably epidemics of scarlet fever, though the disease was as fatal in adults as in children.

The first clear conception of the disease, as we find it at the present time, mainly a disease of childhood, is in the medical literature of the sixteenth and seventeenth centuries. The epidemics of 1661 to 1665 in London, afforded the physicians of that period abundant opportunity for the study of the disease in its various forms and manifestations, and its distinctive character and differentiation were definitely established.

The first occurrence of this disease in America is placed about the year 1735, since that time it has occurred epidemically in all parts of the country, and probably in the larger cities exists continuously endemically.

Contagiousness.—The contagiousness of scarlet fever is well established; the contagious principle is portable, that is, may be carried to a distance by the clothing, books, playthings or linen which have been in contact with the subject of this disease. The duration of the contagious properties is unknown, cases have been quoted when the disease has been caused by infected clothing a year after the original case. The contagion does not, however, appear to possess that high degree of what may be termed volatility so perfected in measles, for if we isolate the scarlatina patient, with ordinary attention to the prevention of carrying the contagion, the other children of the family may remain in the same house with comparative immunity. The sphere of activity of the contagion seems to be limited to a circumscribed space immediately surrounding the patient, outside of which it is carried by the clothing of the attendants, linen or excretions. In New York City, the origin of so many cases has been discovered in this carrying of the contagion, that the Health Department isolate, as far as possible, the cases occurring in private houses, in tenements, remove the patient to the hospital for contagious diseases, while the children living in the same house are not permitted to attend school until the period of possible infection has passed. (The rules of the Health Department in relation to isolation and disinfection in this disease are most excellent, and should be carefully studied.)

Individual susceptibility to this disease varies, and immunity so inconsistent that those who may escape a prevalent and virulent epidemic may be seized during a milder and less prevalent one, while in the same epidemic individual cases will vary from the lowest to the highest grade of intensity. One attack is generally protective from subsequent re-infection.

tion, though well authenticated cases of a distinct second attack are recorded.

Scarlet fever is mainly a disease of childhood, a large percentage of the cases occurring between the ages of two and seven years; after the age of ten years there is apparently comparative immunity from the regular form of the disease. I write apparently comparative immunity, for though the disease occurs in its regular form in a small percentage of adults, there are many cases in which it occurs irregularly which are never recognized, for certainly the sore throat in adult attendants on children ill with this disease is frequently an irregular form, is without eruption and but slight fever.

Aetiology.—The etiology of scarlet fever is still undecided, for while in accord with the modern germ theory, we believe it to be due to a specific micro-organism, this has not as yet been definitely determined. Klein, Eklund, and others have found micrococci in the blood and urine of patients with this disease. The opinion has been advanced that the disease also exists in cattle. Kline, in investigating the Hendon outbreak of scarlet fever in 1885, when it was claimed that the outbreak originated through the use of infected milk, states that he found in the ulcers on the udders of the cows of this herd a micrococcus identical with that discovered in the blood of scarlet fever patients. As stated previously, the question is still undetermined, and generally, it must be admitted, the disease may be traced to direct infection from a former case, though if Kline's observations are proved to be authentic, it will afford an explanation of the sporadic cases which occur when direct infection seems to be impossible.

The question will now arise, In what form does the contagious property exist? How does infection occur? It is presumed that all the secretions and excretions, the exhalation, the epidermic scales during the stage of desquamation are infectious, it has even been claimed that the pus from an otorrhœa, a sequel of the fever, is infective.

Clinical History.—So many systematic treatises on diseases in children have been written, so many monographs on scarlet fever (one hundred and sixty-one works having been published on this subject up to 1849, and doubtless more than that number since) that it will be unnecessary to enter into a detailed clinical history. The disease has been described in three forms, regular, grave and irregular. The duration of the period of incubation is variable, one to six days being now generally regarded as the mean and extreme (Murchison), probably the fourth day is the most frequent time for the appearance of the initial symptoms. There is usually no prodromic period, at the most, a few hours malaise preceding the initial chill or chilliness, the outbreak after the incubative period being abrupt.

In the regular form in adults there may be an initial rigor; in children, a chill or merely chilliness, followed by vomiting, headache, flushed face, twitching, starting anorexia and thirst, sometimes convulsions; these symptoms are accompanied by an increase of temperature, rapidly running up to 102° to 106° F. and pulse 120 to 160, which continues without abatement until the appearance of the eruption which may be delayed one, two or three days, but generally appears within the first twenty-four hours about the neck, chest and shoulders as indistinct scarlet points which, increasing in redness and extending over the trunk and extremities, reaches its maximum in from two to four days. When developed slowly the confluence is apt to be marked.

When the disease is fully developed, the entire body is covered with a scarlet punctate rash; the skin hot and dry, sometimes sensitive, swollen and edematous, particularly about the face and eyes. The throat symptoms begin with the development of the rash and progress with it, but an intense eruption or high fever does not necessarily indicate an intense angina; as a rule, however, the throat symptoms increase and decrease with the efflorescence and deflorescence of the exanthem. The intensity of the throat symptoms also varies in the different epidemics being more marked in some than in others. Generally, the redness of the pharynx and fauces is sufficiently marked to be characteristic. The tongue is reddened at the tip and coated at the onset; during the first few days the coating disappears and the so-called strawberry tongue developed. Mild diarrhoea may occur. During the continuance of the fever the urine is scanty and high colored; marked diminutions, for total suppression is rare; is ominous, as indicating severe renal complications. Albumen may or may not be present. Casts, mucus and epithelial with blood corpuscles may be found on examination, and when present, care is indicated, as a severe form of nephritis may rapidly develop.

The course of the fever is marked by remissions and exacerbations, and in mild cases there may be distinct intermissions; defervescence is slow and gradual, with increasing remissions and shortening exacerbations. There is usually, also, an increased pulse-rate until convalescence is established.

The eruption remains stationary for a short time after its full development, and then begins to fade and disappear from the body in the order of its appearance; desquamation generally begins about the fifth or seventh day, but may be delayed for a week, occasionally, for a longer period; it occurs in minute bran like scales, or in strips, particularly on the palmer and planter surfaces. In some cases, a second or third exfoliation may take place. The process of desquamation takes from one to two weeks, and on its completion convalescence is established; the skin is now soft and clean and the appetite returns. As there is danger of nephritis or other lesions occurring, as sequelæ, the patient should not be discharged from observation until six to eight weeks have elapsed.

The grave or malignant form.—In this form all the symptoms described under the preceding type are markedly intensified; in the eruptive stage convulsions are frequent in children; the temperature rises very high, stupor or coma may develop, and the early appearance of severe renal complications or angina may rapidly lead to a fatal termination. Many reasons have been ascribed for this malignancy, such as pre-existing diseases, delayed exanthem, peculiar virulence of the contagion; the most plausible is that it is due to intensified predisposition—*idiosyncrasy*.

Irregular forms.—In this class there is an absence or marked modification of one or more of the cardinal symptoms of the disease—the exanthem may be absent, very slight or delayed an unusual length of time, the angina present or absent, the character of the febrile phenomena altered, marked remissions or intermissions occurring, followed by severe exacerbations, or the nervous or urinary symptoms may be predominant. By indiscretions in diet or treatment, or by the aggravation of some pre-existing local affection, the regular or ordinary form may be converted into the irregular. The most common example is the scarlatinal sore-throat of adults who have been exposed to infection.

In connection with the study of the irregular forms of scarlet fever, its occurrence in surgical and obstetrical cases is of great interest. In certain surgical cases after operation, sometimes in those not requiring operation, a scarletinous eruption, accompanied by fever, sore throat and strawberry tongue has developed, followed by desquamation and presence of albumen in the urine, these cases occurring in adults as well as in children. Some of these cases were known to have been exposed to scarlet fever infection, so that undoubtedly a number were true examples of it. Yet others developed where it seemed to be an impossibility that infection should have taken place, and the explanation has been that it is due to a peculiar form of septicaemia. The study of these cases renders it certain, however, that the depressed state of the constitution, due to traumatism, operative measures or disease, may be a factor of importance in increasing the susceptibility to scarlet fever. It is also a well-known fact that women convalescent from child-birth are readily infected; parturition, like traumatism, furnishes to an eminent degree that depressed physical condition which we believe increases the susceptibility to septic or exanthematous infection. Here great care is necessary in making the differential diagnosis, as septicaemia may be accomplished by an efflorescence which bears a very close relation to the exanthem of scarlet fever. Playfair furthermore believes that scarlatinal infection may excite a puerperal fever in which the characteristic symptoms of the disease are lacking, so that it is indistinguishable from an ordinary puerperal septicaemia.

Complications and Sequelæ.—The complications and sequelæ of scarlet fever are too numerous to be considered in full, but brief reference will be made to the more common and important ones. Complications may arise or sequelæ occur in any form of the disease, but naturally they are most frequent and serious in the malignant form.

Nervous accidents occur chiefly at two periods: in the first few days when they are due to the intense severity and malignancy of the disease, and the impulsive nervous temperament of childhood, or in the declining stage or after the decline of the fever, when they are due to uræmia. These symptoms of nervous excitation vary greatly in intensity, and may be so severe as to simulate acute meningitis at the onset, the analogy being very close for a time, particularly if the eruption be delayed (autopsies have been made in fatal cases but show no trace of meningeal inflammation), formerly these nervous symptoms at the beginning of the disease were held to indicate a rapid and fatal termination of the case, under the improved modern methods of treatment, while regarded as of the utmost gravity, the prognosis is not so hopeless. The eclamptic seizures of the latter period will be considered in connection with nephritis.

As noted in describing the ordinary form of the fever, there is generally sufficient redness and inflammation of the fauces and pharynx as to be characteristic. From this mild process the pharyngitis may increase to all grades of severity, and to such an extent that it becomes the predominant element in the malady and has been described as a separate form of scarlet fever, the anginose. In this we have the uvula, pillars of the fauces, tonsils and pharynx; inflamed, infiltrated and swollen; the tonsil and fauces, and nearly always the pharynx, are covered with a diphtheritic exudation. Superficial ulceration, even gangrene, may occur, causing a dark-brown and jagged appearance. When the exudation

attacks the larynx it is always by extension, never a primary phenomena. This extension to the larynx occurs more frequently in some epidemics than in others. The gangrene may increase in severity and large vessels may be opened, death from hemorrhage has resulted in some cases. This condition of the throat has been described by "Sanno" as secondary diphtheria.

Coincident with the inflammatory process in the throat, the glands and cellular tissue of the neck become involved. The glands are inflamed, swollen and tender, may suppurate, and a cellulitis be excited. The cellulitis is in itself, in some cases, a formidable complication, for the pus following the various layers of the cervical fascia may burrow to all parts of the neck into the anterior mediastinum, posterior to the pharynx or into the axilla, and if not relieved by appropriate incision, may involve the integrity of vital structures, while the resulting slough lay bare the important vessels and nerves of the neck. The symptoms of a severe throat involvement may begin the second or third day, usually about the end of the first week or the beginning of the second.

Otitis may be a complication or a sequela, its after effects are of great importance, as a total loss of hearing may result. C. H. May, in an article on scarletinous otitis states that, "Statistics show that ten per cent. of deaf-mutes owe their affliction to this cause, and that five per cent. of all cases of deafness arose from an attack of scarlet fever."

Pleurisy, peritonitis ends, and pericarditis have been described as complications; of these pleurisy is the most frequent and important, it generally begins, when present, during the stage of desquamation, and is apt to be suppurative.

Dilatations of the heart sometimes complicates malignant cases, acute dilatation has also been described as a sequela of scarletinous nephritis, and to have been the cause of death in some apparently inexplicable cases (Goodheart). A form of rheumatism occurs in this disease. This is doubted by some writers, who believe the joint symptoms to be the result of a synovitis, rather than a true rheumatism, it shifting from joint to joint, however, points more to rheumatism as it does to endocarditis. This endocarditis may cause permanent crippling of the cardiac valves.

Nephritis.—There can be but little doubt that nephritis in its milder forms is a frequent complication or sequela, even more frequently than hitherto supposed. It may merely be a catarrhal process not producing albuminuria, dropsy or other notable symptoms, which, with careful treatment, abates with the decline of the fever. The nephritis which is grave and gives rise to symptoms, generally begins in the disquematous stage; and in many instances is plainly attributable to exposure to cold air or draughts; or the mild catarrh above mentioned, may have become aggravated through these causes. This aggravation appears to be the chief danger in the mild cases of this disease, for, the patient not feeling or appearing very ill, is allowed to be up and about, and thus much more exposed to draughts than in severe cases when confined to bed. This chilling of the cutaneous surface appears to be the immediate cause of nephritis in a considerable proportion of cases. It is foreign and unnecessary to the purpose of this paper, which is designed to review practically the various phases and forms of scarlet fever, to enter on a prolonged description of the pathological anatomy of the various lesions of the kidney, observed in connection with the disease; it will therefore be omitted.

The nephritis, in proportion to its extent and gravity, is accompanied by symptoms such as languor, febrile movement, thirst, anorexia and weakness. At first the patient may simply complain of ailing, without any particular symptom. The quantity of urine is not diminished, but as the disease progresses urination becomes less frequent and the quantity more scanty. Albuminuria occurs, and the excretion of urea diminished; if the nephritis be severe this diminished excretion of urea leads to its accumulation; and the symptoms of uræmic poisoning, such as headache, vomiting, stupor or restlessness are developed, progressing slowly but surely, if not remedied by treatment, to the explosive eclampsia. Microscopic examination of the urine at this time will reveal hyaline and granular casts, epithelial cells and blood corpuscles. The specific gravity, the quantity of urine being diminished, may be greater than in health.

The dropsy may be first noticed about the face, or the swelling may be about the ankles and legs; it progresses onward until general anasarca is present. In extreme cases the serous cavities may all be drop-sical, and even oedema of the glottis has taken place with a fatal issue. Nephritis, when occurring as a sequelæ, generally appears within three weeks after the fever ends. Cases have been observed as late as the fourth or fifth week; after that time the patient may be considered to possess immunity from this source of danger, although the symptoms and uræmia in severe cases appear to be very unfavorable. Under prompt and efficient treatment the prognosis is usually good, a large proportion of cases having recovered even after eclampsia had occurred.

Diagnosis.—Prior to the eruption, it is almost impossible to make a positive diagnosis; still, if exposure to infection be known to have occurred, or during an epidemic of this malady a child be suddenly taken ill without local disease sufficient to account for the symptoms, particularly if vomiting occurs with a very high temperature and pulse-rate, a working diagnosis of scarlet fever may be made. An early diagnostic point, and one of the most constant, is the hyperæmia of the fauces. On the appearance of the eruption the diagnosis, in the majority of cases, can be positively made, in conjunction with the other symptoms.

Differential Diagnosis.—The diseases with which scarlet fever is most frequently confounded are measles, erythema, diphtheria and roetheln. There is, however, in all these diseases, certain marked and distinct features, by means of which we can with care eliminate them. In measles, for instance, there is a catarrhal period prior to the eruption, the febrile movement is remittent, the rash arrives at its maximum development more slowly, but disappears more quickly; is frequently arranged in crescentic patches, and may be confluent on the face; by reason of its great contagiousness, the several children of the family or in the same house are apt to be simultaneously sick. Erythema resembles the scarletinous eruption, but is limited to a part of the surface, is of shorter duration and accompanied by much less febrile movement, and there is very slight, if any, faucial redness. Diphtheria is generally developed insidiously; the exudation extends to the naso pharynx and through the nares; the eruption is absent, or, if there has been an erythema, it disappears quickly; the weakness and depression are marked. In roetheln the efflorescence fades quickly, the symptoms are mild, and approximate those of measles, and the speedy abatement of the symptoms shows the nature of the disease.

Prognosis.—The prognosis depends on the form, intensity, complications and sequelæ of the disease, and the age and strength of the patient. The type of the epidemic is also of importance, as great variations of virulence and malignancy are observed. Sydenham, in the middle of the seventeenth century, regarded the disease as one of little importance, whose mortality was "nil." With so many factors to be considered, and such variation of form to be considered, it is impossible to construct a table of mortality worthy of a moment's consideration. It will suffice, therefore, to state that in the average mild form, with but slight throat or kidney lesion, the mortality will be about 3 per cent.; in severer cases, complicated by diphtheria, marked nephritis, or depressed physical condition, it will range from 20 to 50 per cent. The New York State Board of Health has just issued its annual summary of mortality. In a total mortality of 123,878, scarlet fever caused death in 2,254 cases. Sex appears to be without influence in relation to mortality, but age is greatly so. Few cases occur under the age of twelve months; the majority between two and seven years; therefore, the greatest mortality is during these years.

Treatment—Prophylaxis.—In a disease like scarlet fever the old adage of "an ounce of prevention being better than a pound of cure," is a maxim worthy of remembrance and obedience. As the rules of the New York Health Department are models, the reader is referred to them for guidance.

Hydrotherapeutic.—The resuscitated, and now modernized, hydrotherapy found one of its earliest applications in the treatment of this disease. Currie won world-wide fame by applying this treatment to his own children. Hiram Corson, of Pennsylvania, adopted this treatment, as early as 1844, with great success; but until the writings of Dr. Simon Baruch, of New York City, again drew attention to the value of hydrotherapy, the labors and marvelous results of Brandt, Ziemssen and Winternitz, in this field, it had languished, buried in the dim past, as a relic of crudity, by popular prejudice, which unitedly joins in the demand for the production of the rash by a hot bath, they had no use for cold water or the water-cure. This prejudice is but little modified, even at the present day, with laity, and though the profession, through the efforts of Dr. Baruch, are awakening to the great value of this means of reducing temperature, they are loath to face popular prejudice and the almost ignominious dismissal with which the proposition to reduce the fever by this means is met. Tact and time will overcome this prejudice, and a brighter future is dawning for hydrotherapy.

In the use of hydrotherapy there are several factors to be considered. The intensity of the fever, the complications, age and strength of the patient, and the proper method of its application. Children bear fever well; therefore, to a certain temperature, there is no necessity for reducing the fever unless it exceeds 103° F. (possibly, in certain cases, 102), and in strong, robust, otherwise healthy children. Of the complications, cases where with hot, dry skin, smallness and rapidity of the pulse, there is marked restlessness, alternating with drowsiness, and violent excitement, the bath is of the greatest value, but it is contra-indicated in cases when there is marked depression, low muttering delirium and a violent angina; although in extreme cases in which there is a cool skin, weak pulse and high internal temperature it may be tried, but with the greatest care and attention. Ziemssen, in this adynamic condition, recommends a tepid bath and free stimulation, but

the warm bath or vapor bath may be used, the patient being subsequently wrapped in blankets. Nephritis is also a contra-indication. Age and strength are also to be regarded, the older, stronger and more robust the child, the more applicable is this form of treatment. There are several methods of using hydrotherapy in the treatment of disease in children, the graduated bath of Ziemssen, the cold pack, sponging and cold affusions. Of all these methods the one most commonly used is the sponging, either with water alone or combined with alcohol. By this means we can reduce the temperature several degrees, and it rarely meets with much opposition on the part of the parents. In the cold pack the patient is wrapped in a sheet wrung out in cold water and covered with blankets; after a half hour he is to be returned to bed and the temperature will be found to have been reduced two or three degrees. The graduated bath of Ziemssen is placing the patient in a bath filled with water at a temperature of 90° , and by the addition of cold water gradually reducing its temperature to 80° . An important point first advanced by Dr. Baruch, I believe, is, that while in the bath, gentle rubbing of the extremities and trunk should be kept up continuously by the attendant, the cutaneous circulation is thus sustained; water colder than that of the bath should be frequently applied to the head. After a few minutes (5 to 10) the patient is withdrawn from the bath, the body dried and is returned to bed. The cold affusion, or method of Currie, is not now used, the bath taking its place. The bath is the most effective means of reducing the temperature, and its antipyretic effects of greater duration. In all these methods great attention must be paid to sustaining the heart, and stimulation must be resorted to if necessary. Besides these general means there are several local methods of abstracting heat, the ice-bag to the head, or Leeter's temperature regulator, and the ice-bag to the throat when the angina is severe or cellulitis impending.

Antiseptic Method.—In this method the various antiseptic drugs which may be used internally have been used, but the question is one which is still under discussion. Carbolic acid, sulpho-carbolate of sodium, sulphite of soda and eucalyptus are those most frequently prescribed.

Medical Treatment.—There is scarcely a drug in the *materia medica* which has not at one time or the other been used in this disease. Drugs to reduce fever, salicylate of soda, digitalis, quinine, the chemical antiseptics, particularly phenacetine (recommended by Dr. Waugh in measles), may be used; the main reliance heretofore of the profession has been in quinine (J. L. Smith). To stimulate or sustain strength, carbonate of ammonia, aromatic spirits of ammonia, champagne, whiskey, concentrated soups, wine whey and peptonized milk. Dr. J. Lewis Smith recommends most highly the elixir of calisaya bark and iron, or the ferri et ammonia citrat. and carbonate of ammonia during convalescence.

Treatment of the Complications.—For the angina Dr. Smith recommends a gargle composed of boracic acid, chlorate potash, tr. muriate of iron and glycerine; if diphtheria occurs, the five volume peroxide of hydrogen, aristol, salicylic acid, iodoform, mixtures of iron and potash, pepsine, papoid, have been used. If cellulitis threatens, or if from the otitis, empyema of the mastoid cells occurs, prompt incision is necessary; otorrhoea always demands careful treatment. Nephritis should be treated in the manner usual to cases arising idiopathically, care being taken that the urea

is excreted, if not by the kidneys at least by proper treatment through the skin; if eclampsia occurs, bromide of potash should be given in enemata in large and frequent doses. Attention should also be paid to the diet in this complication. Rheumatism, pericarditis, etc., are treated in the usual manner. Pleuritis, which is apt to be suppurative, may demand operation as in idiopathic cases.

To rapidly review the treatment, we find that in hydrotherapy we have an effective agent for reducing the temperature and controlling the nervous symptoms; that the otitis, cellulitis or pleuritis may demand operative measures; that quinine, carb. of ammonia and whiskey or champagne, will aid in sustaining the strength while combating the complications.

In the preparation of this article, the verbal and quoted expressions of Drs. J. L. Smith, Holt, Winter, Siebert, Jacobi and Baruch, have been freely utilized.

70 EAST ONE HUNDRED AND TWENTIETH STREET.

SCARLATINA.

BY W. BLAIR STEWART, A.M., M.D.,
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AFTER all that has been said and written about theories, recent pathological investigations, laboratory experimentation, and new methods of treatment, the profession usually draws the same conclusion that experience at the bedside is the best teacher. In the grand rush for notoriety it is to be feared that too many lose sight of established principles, and are too ready to accept new methods, or enter the field of experimental medicine. Thus far it has been impossible to unravel the pathological process or processes present in the exanthematous diseases, hence the many and varied methods of treatments that are used by the profession at large. Symptomatic treatment, founded on physiological and therapeutical reasoning, constitutes our only source of proper medication in this class of diseases. All the so-called "specifics" are not specifics when used internally—such things do not exist in the whole field of medicine. The profession would soon become a mere trade, operated by set rules, if such was the case, and the question of "long life" and "the banishment of all diseases" would have a material solution.

Scarlatina, commonly called scarlet fever, is an acute, specific, contagious, self-limited, self protective disease of childhood, manifesting itself by a sudden onset with a chill, rigors, convulsions, or vomiting, and followed by high fever, sore throat, the appearance of a uniform rash over the whole body at the end of the first twenty-four or thirty hours; gradual defervescence and desquamation of the epithelial layer of the skin at the end of the seventh or tenth day. Scarlatina is a term applied to every type of the disease, and is not used to indicate a mild attack alone, an impression that has been erroneously given to the laity. It is a disease that requires the most assiduous care and attention, even in the mildest forms, on account of its insidious course. With this understanding of the disease let us consider a few practical points of treatment and prevention.

As a duty to the other children in the family and community *isolation is imperative*. Your patient should be placed in a well lighted, easily ventilated room on the upper floor of the building, and as far from the family living apartments as possible. Curtains, tapestries, extra clothing, upholstered furniture and carpets should be removed. The floor may

be covered with an old mat or carpet that can be destroyed afterward. Use an old mattress, or cut-straw tick, and plain bed clothing that can be thoroughly disinfected with boiling water. In fact, nothing should remain in the room that is not absolutely necessary. Scarlatina is very mildly contagious during the first few days, and offers little chance for spreading to other persons; but when the scaling process develops, contagion is greatest. If a professional nurse cannot be obtained, one member of the family should act in this capacity, and avoid passing into other parts of the house with the same clothing as is worn in the sick room. In fact, it is better if they stay in the same rooms all the time, except so much time as is necessary for exercise in the open air. Books may be allowed, but must be destroyed afterward. As a still further means of precaution, the other children should be sent away from the house if possible, and kept away until all danger of contagion is past. Servants and all persons in the house should avoid promiscuous visiting and contact with the general public. Can the physicians carry the contagion from one patient to another? Certainly he can. It is his duty to remain in the sick room the shortest time possible to do justice to the case; to thoroughly brush his clothing and wash his hands before leaving the house; to avoid going directly from a scarlatinal case to see other children; to properly air his clothing, and, if possible, visit his contagious cases last. Negligence of these principles will frequently spread the disease to the whole community. Strict observance of these principles will confine the disease to one patient, or one family. When scarlatina infects a whole community, and becomes epidemic, it is a certain indication of negligence of proper prophylactic measures through ignorance or carelessness. These points apply equally well to every contagious disease.

It is my custom, if the floor is bare, to have it wiped every morning with some antiseptic wash; to thoroughly disinfect the stools and urine, and to supply plenty of fresh air in the room. As a good general disinfectant for the sick room Platt's chlorides will fill every indication, and is free from many of the objectionable features of carbolic acid, sulphurous acid, bichloride of mercury, and chloride of lime. Bed clothing, handkerchiefs, and all linen, as soon as changed, is placed in water and *constantly boiled for six hours*. This process of disinfection is certain, and destroys every possibility of contagion from that source. During convalescence and exfoliation a bowl, containing a strong solution of an antiseptic, is placed by the patient, and all particles of epithelium picked off are thrown into it, in place of on the floor or bed. Unguents are applied to the whole body to prevent the scales from scattering and to facilitate exfoliation. When convalescence is complete and the patient has left the room, the bed clothing and all clothing must be boiled. The straw mattress should be destroyed, or emptied, and thoroughly disinfected. Thoroughly scrub the floor, wash-boards, wood-work, and all furniture, and fumigate the room for twenty-four or thirty-six hours with the fumes of sulphur or steam, medicated with crude carbolic acid.

Parents often fall into error by exposing their other children to the disease with the hope "that they will take it because the case is a light one." Do all you can to discourage such ideas, for some of the most malignant cases are those contracted from the mildest. The scarlatinal poison will affect the individual according to his susceptibility, constitution, and tem-

porary physical condition; the poison in one case acting mildly and in another most actively. A person who has once had a typical form of the disease rarely has a second attack, although such a thing is possible.

It is a questionable point whether any known remedy will limit the course of scarlatina. It is a self-limited disease, and appears to run its course independent of all medication. Although this seems to be the case, we are not helpless, for much can be done to prevent complications and lessen objectionable symptoms. The equilibrium of the circulation, fever, and complications of the nose, throat and ear, must be watched, and, more important still, the urine should be examined daily for signs of renal complications. It is well to begin treatment by the administration of a good cathartic, to cleanse the alimentary canal of all excrementitious matter that might have a slight irritating action. It also stimulates the organs to eliminate poisons from the blood. If there is great irritability of the stomach, administer $\frac{1}{2}$ -grain triturates of calomel every half hour until relieved. Following this, it is my custom to administer:

R.—*Infus. digitalis fol.* f $\frac{3}{4}$ ij.
Liq. ammonii acetatis. f $\frac{3}{4}$ ss.
Syr. aurantii. q. s. ad f $\frac{3}{4}$ iv.

M.—Sig. One teaspoonful every three hours.

R.—*Tr. aconiti rad.*,
Tr. belladonnae. $\ddot{\text{a}}$ gtt. xxx.
Tr. rhus toxicodendron. gtt. x.
Aquaæ. q. s. ad f $\frac{3}{4}$ iv.

M.—Sig. One teaspoonful every hour until the rash has appeared properly.

Dr. Wm. B. Atkinson recommends very highly the infusion of digitalis in scarlatina, given in small doses, at frequent intervals, until the physiological effects of the drug are obtained and maintained. The above prescription embodies the same principle, and may be given at more frequent intervals until the effect of the drug is obtained. Digitalis is a heart tonic, and aids in maintaining the equilibrium of the circulation, lessens fever, and prevents congestion. It is a diuretic, and acts with the liq. ammoniæ acetatis in flushing the kidneys, thus relieving tendency to tubular nephritis, one of the greatest complications of the disease. Aconite and belladonna given together favor the appearance of the eruption, diminish the heart's action, lessens fever, and, by local contact, exerts a beneficial influence on the mucous membrane of the throat. Rhus toxicodendron relieves to a great degree the feeling of lassitude and soreness in the muscles and throat, facilitates appearance of the rash, and tends to relieve congestion of internal organs. It also relieves the cough. Digitalis is given as an infusion through the whole course of the disease, and will do more to prevent complications and fatal terminations than any other known combination. The second prescription is given at intervals of one hour until the rash is well out, and is then given at intervals of two to four hours. If the temperature is above 104° F., cold sponge baths are given at intervals of two to four hours, as necessary, in place of the general antipyretics. There is no danger of "driving the rash in" (as the laity say) by the cold baths, nor is there the least danger of chilling your patient as long as the temperature is not below 100° F. A sudden reduction of the temperature below this point would, in all probability, be followed by chills and pneumonia, or some other complication. For the sore mouth and throat, use a wash of potassii chloras or borax, or a very desirable combination—

R.—Hydrogen peroxide (15 volume)... fʒij.
Sol. cocaineæ hydrochlor. (4 p. c.)... gtt. x.
Mel. despumati.....vel
Mel. rosæ.....fʒss.
Aquaæ.....q. s. ad fʒiv.

M.—Sig. Use freely as a mouth-wash, gargle or spray. If too strong, dilute with one part of water.

When the tongue is dry and parched, apply to it borax and glycerine, several times daily, with a soft brush or piece of cotton. For the dry condition of the lips, apply freely tallow (one teaspoonful) thoroughly mixed with sp. camphoræ (gtt. x). Thirst is lessened by pellets of ice and small amounts of carbonated waters, at frequent intervals. When exfoliation of the epithelium begins, apply some soothing ointment over the whole body.

R.—Acidi borici.....gr. x.
Ung. zinci oxid.ʒj.
Ung. aquæ roseæʒss. M.

Sometimes a secondary eruption will appear on isolated parts of the body, but it is of little consequence and soon disappears. The patient should be bathed daily with a tepid antiseptic wash, and, when all traces of scaling have disappeared, a thorough scrub bath and shampoo of the head must be given, all clothes changed, and the patient can leave his room without fear of communicating the disease to others. Not until this has been done should the patient leave the room under any circumstances. Six weeks from the onset of the disease is the usual time required before it is entirely eradicated, and, in some cases, a much longer time is required. It is well to follow treatment with some good tonic of iron, arsenic and strychnine, for a week or two. All complications must be met by appropriate remedies. The diet in scarlatina should be light, nutritious and small in amount. It is not well to give meat during the fever. Milk, vegetables, broths, rice, tapioca, sago, and, occasionally, a small amount of game or fish. Heavy vegetables must be avoided. Orange juice may be taken at liberty.

My main reliance is placed on the infusion of digitalis, begun early and used persistently through the whole course of the disease. It does not seem to shorten the disease to any extent, but it does invariably mitigate its severity and prevents complications, if the preparation used is a good one. It is best in giving the infusion to make it yourself or have it made fresh by a reliable pharmacist. Many of the poor results following this method of treatment are undoubtedly due to an improper preparation and not the method itself, as is stated by many.

BRYN MAWR, PA.

WHAT I KNOW ABOUT SCARLET FEVER.

By W. R. D. BLACKWOOD, M.D.

WITH one of the most aristocratic kinds of a pedigree, and running away back into the very first families of morbid processes, it is only reasonable to suppose that this extremely wicked, and widely-feared disease must come from a microbe of the highest distinction, for all disorders worth having now-a-days cannot arise in any other way than from germs of some kind or other. I am free to confess that I do not know at this time of writing whether or not the criminal has been isolated, and I have not yet been sufficiently interested in the matter to find out whether its identity has been accurately established. I don't care so much about the detective fever which hedges these little marauders about on every side, as I do about the other aspect of the busi-

ness, what are we to do in the way of killing them? Now, if any of my readers are disposed to be hypercritical, here's a chance to pitch in with a vengeance: Not long ago the esteemed *TIMES AND REGISTER* reprinted part of my late article on "Has Electricity any Action as a Germicide; Can it Produce Poisonous Results in Food?" and in that paper (which, by the way, I think is one of the best of my effusions, if I do say so myself), I speak of the action of currents on the germ of scarlatina. Now, if I don't know what the germ concerned in this malady is, how can I tell the action of electricity on it? Well, in the investigation, I found in many cases that the saliva, for instance, was crowded with a lot of microbes and germs of very differing aspects, both in the disease under consideration and in others, and my object was then to see whether the currents would kill these fellows, and they did under certain manipulations, which my readers can study for themselves by perusing my paper in the *Medical Bulletin* (which contains it unabridged), or in *THE TIMES AND REGISTER* (which has the pith of it substantially reprinted therein, leaving out the lucubrations not essential; and it was a very great kindness for the editor to thus distribute for me my ideas without my knowing it till I saw the journal on my library table). Whether any of the microbes seen in the saliva which actually teemed with them in some of the scarlatina cases, had anything to do with the disease, or whether they had not, I don't pretend to say; for example, in diphtheria it is presumable that the microbes which swarm in the membrane are the cause of the disease, yet they may be found in the pharynx of people perfectly healthy. In all zymotic maladies, or, probably, in all departures from health, it might be that the microbes always present in certain fluids of the body are actually the originators of disease when wrought into fury by certain agencies not yet understood by us, just as gunpowder is harmless till the match is applied, or as yeast is not disposed to raise things till it is urged too strenuously to take water, then it becomes hydrophobic. Thus the microbes seen in the throats of scarlet fever cases may, or may not, be the causative agents.

This year of our Lord sees me thirty years on the hard road of medical practice on my own hook, not counting two spent under the supervision of a preceptor than whom no student ever had a better, and few as good. As a boy I respected Doctor James F. Gayley of this city; as years pass by I respect him more. My four years under him were worked for all that could be gotten out of them, and the two latter referred to were spent in practical clinical work in his very large list of cases, embracing all the details of a general practice; just what the real student required. With his extensive list scarlet fever came along pretty frequently, and the ideas then absorbed from him still define my method of treatment. I have seen no cause to change in all the long time since gone into the irrecoverable.

In considering the matter, I first want to say a word as to the danger of contagion. I believe that in no disease is the demand for the most perfect isolation of the invalid more imperative. I imprison my patient in a room at the top of the house; I keep the nurse away from the rest of the family as much as possible; I take out of the apartment all unnecessary furniture; I ventilate the temporary hospital freely, even at the risk of giving the sick one "cold," so dreaded by most parents when you want the windows open day and night; I keep all clothing of bed and person in the room till the case is terminated, or have

it boiled in the room before it is again used by the patient. When the case has gone on to perfect recovery, I have all the washable things boiled long and well; I have the furniture which had to remain in the place washed with turpentine, hot water and soap; I get the wall-paper renewed, taking off the old if possible; I scrub the floor with a strong solution of chlorine-water; then I vacate the room, if at all practicable, for a month. I know beyond question that a suit of clothes which the patient outgrew during his illness, was the cause of giving the disease to a poor child to whom the articles were given, *a year after the original patient had gotten well, and the garments were kept in camphor, etc. all that time to preserve them from moths.* This much for hygiene—now for therapeutics.

I give little medicine to any, and none at all to those whom I feel able to let alone in mild cases. I don't care about high temperatures, unless that symptom keeps at 105 or more for over twenty-four consecutive hours, and if the person is strongly built I don't even then interfere. I don't like antipyretics of the new description—antipyrine, acetanilid, anti-febrine, etc. I pin my faith on water internally and externally in plenty—and cold at that. I may put in a little lemon juice, or a few drops of acid phosphate internally, and if this does not suffice, then I resort to cool bathing by means of either plain water or water to which has been added alcohol, bay-rum, or saleratus, plentifully applied and allowed to evaporate in the open air—the body being left fully exposed without covering of any sort, or as little as possible. I lay the patient on a cool sheet (linen in summer, cotton in winter), and, aside from actual draughts, let the air get at him as freely as may be.

The prescription is,

R.—Liq. ammoniae acetatis,
Syr. limonis.....^{aa} q. s.

and of this a teaspoonful every three hours or less. If the throat becomes very dry, I add a few drops of fl. ext. jaborandi, but not often. If fever is high at the outset I try tr. aconite rad., cautiously watching the heart closely. The great danger to my mind is exhaustion, not complications. To support the case I begin early with wine-whey made from a good sherry, or, as I prefer for some years past, the orange wine of the Florida Orange Wine Company. I give this ad libitum, almost, and never has it failed me yet. Now and then, if the throat is troubled with excessive mucus, I give a few drops of tr. belladonna, and I have a sort of superstition that it is somewhat a preventive in limiting the spread amongst the rest of the household.

I don't worry the kidneys with diuretics, and I don't worry myself about albuminuria; if the renal symptoms become threatening, I apply hot stapes to the loins, and give ten drops or so of tr. ferri chloridi and the like of spt. etheris nitrosi together, every three hours in a child of say five years—a little more in older ones. I give no "sleeping medicine," no matter what the restlessness or delirium—in such cases I push the hydrotherapy. If the throat gets very sore I apply cold water externally, and cool gargles if the child can manage them. When defervescence sets in I grease the body all over, preferring the old-fashioned bacon or ham-rind, and I find it extremely comforting to the sufferer not only in allaying the itching, but in preventing the spread through the atmosphere of the epidermis thrown off so plentifully. It may be theoretically a dirty plan; it may be theoretically not a good idea to "block up the pores of the

skin" as I have been told repeatedly, but the patient appreciates the relief, and he is the one to consult just about that period, and it fills the bill every time! This is what I do, and it has served me well from the start to the present, through many cases and in many of all degrees of mildness or severity.

The ears are looked after carefully during the progress of the disease, and should otalgia come on I have a preference for the vapor of chloroform forced into the meatus, by dropping a little of that liquid on some cotton inserted into a tobacco pipe (and one which has been used somewhat is rather better than otherwise on account of the nicotine), the mouth-piece is then inserted into the ear and the vapor blown in by the attendant, who gently forces his breath through the bowl of the instrument. Atropia in the strength of four grains to the fluid ounce may be used as an instillation two or three times daily, and this must be carefully done, if the drum be perforated, in which condition there is, of course, a chance for some of the drug to flow down the eustachian tube into the pharynx, and thus be swallowed. If otorrhoea sets in, I used to keep the canal clean by syringing, but latterly the dry method is in vogue, and small pledgets of cotton are employed to wipe away any pus, then boracic acid is plentifully blown in, or a few drops of a solution of nitrate of silver (three grs. to fl. oz. j) may be instilled, and granulations thus stimulated.

Should any form of dropsy supervene, it is treated by small doses of Basham's mixture. Many years ago, before I got to using electricity as much as I have done in the past twenty years, a very bad case of anasarca and abdominal dropsy was interfered with in my absence by a quack who applied faradism, and the current did a lot more for the boy than the diuretic did. I have since then had very extended experience with this matter, and I rely thoroughly upon electricity in such instances.

This paper has grown beyond its intended bounds, and as I understand the editor to want concise hints only concerning scarlatina from his correspondents, I close by saying that I fully expect many of my readers to disagree from my ideas. The disease is a bad one, and consequently it seems to demand heroic treatment—much more medication than I believe to be required. This, however, I cannot help. I have never lost a case of scarlet fever by death in all my practice in private or in public work, and none of my cases thus far have suffered from chronic disability consequent upon the malady under consideration.

PHILADELPHIA.

SCARLATINA.
By LOUIS LEWIS, M.D.

SCARLATINA is generally described as an infectious fever, frequent in childhood, characterized by a diffuse scarlet rash on the skin and mucous surfaces of the fauces, pharynx and tonsils, accompanied by pyrexia, and followed by desquamation. In addition, more or less soreness and stiffness about the cervical region are never absent; indeed, the glands in the neck and under the jaw are so often tumefied, edematous, and inflamed that in many instances the disease might not inaptly be termed *lymphatic fever*. These symptoms, together with the sore throat, are constant and reliable; whereas the amount of fever and rash is uncertain and variable. The tongue in scarlatina is furred, and its papillæ enlarged along the dorsum, and bright red at the tip and borders; the pulse is very rapid, and the temperature ranges from fever heat to 106°, until the appearance

of the eruption. Chills, vomiting, headache and fever usually announce an ordinary attack; unpromising cases commence with eclampsia, and sometimes coma (from the circulation of toxic blood in the brain), and are signalized later by a tardy, dusky eruption, and low adynamic nervous symptoms. The urine, in uncomplicated scarlatina, presents no specific characters, beyond being scanty, concentrated, reddish and deficient in chloride of sodium, as in other fevers; but when nephritis and dropsy supervene it becomes charged with albumen, haemoglobin and fibrinous casts of blood corpuscles, or epithelial casts of the uriniferous tubules. This nephritis may prove speedily fatal from uræmic convulsions or coma; it may pave the way for cardiac troubles, as endocarditis, pericarditis, or even embolism; or it may lapse into chronic Bright's disease. Other complications may arise from extension of the inflammatory condition in the throat. This may traverse the eustachian tube and set up otorrhœa; involve the naso-pharynx, and cause ozæna; pass into the air-passages, and excite laryngitis and bronchitis; or infiltrate the tissues of the neck, and produce cervical abscess. Rheumatic conditions of the neck, joints and limbs, with excess of uric acid, suggestive of dengue or dandy fever, and septicæmic inflammation of serous and synovial membranes are also met with, but more usually in young adults. Micro-organisms of various kinds are present in connection with scarlatina, whether as factors or no; they include bacilli, micrococci and streptococci. Scarlatinal poison is readily carried by the excreta, and by dermic débris during desquamation. The floating particles may be distributed, far and near, by food, milk, clothing, letters, etc.; by domestic animals, as dogs, cats and birds, and probably also by flies. These fomites retain their infectious powers for an almost indefinite period, and demand continuous vigilance on the part of the attendants.

The treatment of scarlatina in its milder form is simple and obvious; but it is imperative to see to proper ventilation, isolation and disinfection; to hold the temperature within safe limits; favor transpiration and the appearance of the rash; keep a watchful eye on the state of the urine, and combat the inflammatory tendency in the throat. Complications, of course, must be assailed at their onset. A grain of chlorate of potash, with a minim of tincture of aconite in a teaspoonful of water, may be given hourly, until pyrexia subsides, and two or three grains of carbonate of ammonia every two or three hours in milk. A drachm of chlorate of potash in a pint of lemonade is beneficial in broken doses, as a daily beverage, and ice may be sucked "ad libitum." The throat may be sprayed, swabbed, or gargled with permanganate of potash, carbolic acid, liquor chlori, or nitrate of silver in weak solution. Enlarged glands may be fomented, poulticed, or painted with iodine, or oleate of mercury, and abscesses must be opened. Small doses of hydrargyrum cum creta, salicin, sulphide of calcium, or salol, every two or three hours, will help to reduce the turgid tonsils and neighboring glands. Tepid sponging with diluted vinegar allays irritability, and inunction with vaseline or lard aids desquamation. A delayed or retrocedent rash may be urged out by warm baths (which also relieve the kidneys), or by the cold wet pack, and a graduated cold bath will bring down the temperature when over-high and rebellious to other antipyretics. Cases presenting low nervous symptoms call for stimulants and quinine; the latter is also needed in albuminuria, and in otorrhœa and ozæna, conjoined with appropriate local treatment. It is also useful in the rheumatic com-

plication. The judicious administration of purgatives, especially jalap and calomel, towards the decline of the fever, tends to avert or mitigate an impending attack of nephritis, for there is always constipation, besides increased arterial tension previous to the appearance of albumen in the urine.

36 NORTH NINETEENTH STREET, PHILADELPHIA.

SCARLATINA IN BOSTON.

BY E. CHENERY, M.D.,
BOSTON.

MY next case of scarlatina, unless something determines otherwise, I shall treat as I have treated the disease in years past—by the hyposulphite of soda, about as follows, varying, of course, according to age and other circumstances:

R.—Soda hyposulphit..... 3*ii*-iv.
Syr. limonis vel simplicis..... 3*i*-iii.
Aquaæ puræ..... q. s. ad 3 *viii*.

Sig. Two or three teaspoonsfuls every hour for several times, and then not so often.

It is safe to push to light catharsis, then diminish. Give the same, though not so often or much, to those of the family who have not come down with the disease. This given undiluted is all the gargle likely to be required, especially by the young. Tonics after the first. The milk diet must be omitted at first, or a dose of the medicine suspended to make way for it. The hyposulphite and milk should not be given within an hour of each other—longer is better. I do not say that this treatment is better than some others, but I have found it a good course to fight the undertakers with. Of all the people in the world they are the last to have a hand in my business. I do not want them round. If others are friendly to them or indifferent to their work, that is not my case. I am set to cure my patient, not to play into the hands of undertakers. Of course, there is immense advantage in the early application of efficient means, and doing nothing treatment might about as well come in late as at any other time; and these statements apply equally well in cases of diphtheria and typhoid fever. In all these cases the milk diet has the great advantage of supplying the kidneys with an unirritating diluent, which, keeping them at work eliminating the nitrogenous wastes, does wonders in forestalling the graver nervous symptoms. And this, more than its nourishing qualities, I believe to be the chief advantage of its use.

Whence comes the special scarlatina poison? I believe that certain soils, particularly such as contain nitrogenous wastes, as from houses, sinks, barns, etc., are capable of retaining and developing the scarlatinal germs. In this light only can I explain to myself the occurrence of some cases I once had in the country, far away from all other known cases of the disease. It was in the middle of the winter, with a heavy burden of snow upon the ground, the ground being well frozen before the snow came. My first call was three miles due south, on a ridge road. The house was on the west of the road, the kitchen to the rear, and the barn several rods back of that, the ground gradually rising from the front of the house up to the barn. The tendency of the percolation in the soil, now that the gases were prevented from rising through the frozen surface, was toward the cellar walls, through which the gas escaping could rise into the house. One child had come down with the disease, and, in a week, all the rest. None of them had been away from home and no scarlatina person

had been to their house. A few days later I was called five miles due west, the last quarter mile gradually ascending the side of a hill. The waste of the house ran on to the ground west and back of the house, with another house or two just above. Whatever movement there was in the soil above must have been in the direction of this house. There was but one child, and he was sick with scarlatina. Almost the same day I had another call, and this was due east a mile and a half. I ascended a hill and went down for a short distance on the other side. Here again was the same order of buildings, the out-buildings being the highest and the ground sloping to the house on the east. One child was sick; others come down, and a few other families in the neighborhood also had the disease, and could be accounted for from this. But there were no other cases in the other neighborhoods.

These simple facts have weight with me, and may have with others.

Can scarlatina and diphtheria occur in the same cases at the same time?

In a not well-to-do family in this city there were three children—three to eight—on the ground floor in an old wooden house. These three children were taken at about the same time and were all sick together, and presented the distinctive features of the two diseases in one. A hard fight, however, brought them all through, though they were very sick. Aside from these cases, I have never seen anything approaching this compound condition of things. That it is possible that the two diseases can occur at once and in the same case I must believe, but that they often occur in this complication I am not prepared to accept.

65 CHANDLER STREET.

NOTIFICATION OF CONTAGIOUS DISEASES.—*Le Poitou Medical* has published in one of its last numbers, an interesting letter from M. to Dr. Ponteil, relative to the notice demanded by the government of contagious diseases. He complains that these notifications have been demanded by a gendarme. "There exists, or should exist, a law which compels physicians to report all cases of epidemic disease which come under their clinical care. I believe the law a good one, and capable of diminishing epidemics. But to whom should this report be made no one has told me. In the meantime the gendarmes have informed me that it is to them the report must be made.

"These brave officials have, in effect, received from their chiefs, some formal orders, authorizing them to demand from physicians the names of their patients attacked with contagious disease, to visit them as often as possible and to read to them their circulars, prescribing some hygienic measures of which they understand nothing, and the execution of which they cannot oversee.

"The medical gendarme seeks the microbe with his great-sword, but it would be much better to ask him to see that the houses, the streets and alleys of the localities of which he is sanitary police, are not defiled by human excrement constantly, a cause of infection of the drinking water."

M. Ponteil terminates his article by demanding that this intervention of the gendarmes has been invented by the Committee of Police Hygiene, who, says he, have been accustomed to pass over us in matters in which we ought to have been consulted. He makes a sharp criticism upon the methods by which they proceeded during the last epidemic of

miliary sweating, which had prevailed in Poitou. He terminates his letter as follows:

"We see then in 1891, as in 1887, the Council of Hygiene in Paris pass over the physician of the Province. The fact is very clear. Very well, I am only an humble practitioner, but it is impossible to allow this insult to pass without protesting. I am sure all my confreres will approve."

We have not disputed the method by which the delegates of the Committee on Hygiene have proceeded in Poitou. Never, that we know of, has the committee given instructions either for the interference of the gendarmes or to ignore the provincial doctor; many times, on the contrary, we have heard members of the committee making reports upon epidemics in which they declare themselves to have made inquiries of the physician, and have thanked their confreres for the good grace with which they had aided them in the accomplishing of their task.

If this is so, they should proceed, and only in cases where the physicians refuse should the health officer resort to other sources of information.

—*Le Progrès Médical.*

PROPHYLACTIC TREATMENT OF NEPHRITIS AND SCARLATINA BY MILK.—The exclusive régime of milk still constitutes the basis of treatment in nephritis, and particularly in that that accompanies scarlatina. Dr. Ziegler, physician to the Soldiers' Orphan Asylum at Potsdam, has asked if we cannot forestall this complication, and if it is not advisable to submit immediately to the exclusive diet of milk, all cases of scarlatina from their beginning, in order to thus prevent the renal complications so frequent in this malady. The experience of this physician covers six years; all the patients attacked with scarlatina whom he has observed during this period having been submitted to this régime. Up to the present he declares that his success has been complete, for he has not observed a single case in which nephritis has shown itself. He has treated thus all the cases of scarlatina in his clientèle, and one hundred children who were taken into the infirmary of the orphanage on account of scarlatina.

This is his method: During the first days the invalid takes as a drink a small quantity of milk diluted with mineral water. At this time the loss of appetite being absolute, the quantity absorbed is very small. When the appetite returns the patients take progressively, according to their age and their appetite, a quantity of boiled milk, varying from one and one-half to three liters daily. The patients may, at the same time, take a little biscuit or bread. The diet is as rigorously continued during the first three weeks of the illness. When this period has elapsed, the ordinary alimentation is resumed gradually. This preventive effect should doubtless be attributed to the much more rapid elimination of organic poisons and of bacteria, which, remaining no longer in the kidneys, cannot exercise their noxious action upon that organ.

DR. STICKER reports the observations of G. de Rosa (*Centralbl. für Klin. Med.*), who administered salicylic acid in doses of one to five grains daily, to sixty-six children exposed to infection during an epidemic of scarlet fever. Twenty-seven cases of the disease existed in the building when administration of the drug was commenced. Only three of the sixty-six cases contracted the disease, the failure in these being ascribed to a longer exposure to infection.

The Times and Register

A Weekly Journal of Medicine and Surgery.

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THE TIMES AND REGISTER,
FORMED BY UNITING THE
PHILADELPHIA MEDICAL TIMES,
THE MEDICAL REGISTER,
THE POLYCLINIC,
THE AMERICAN MEDICAL DIGEST,
PUBLISHED UNDER THE AUSPICES OF THE
AMERICAN MEDICAL PRESS ASSOCIATION.

Published by the MEDICAL PRESS Co., Limited.
Address all communications to 1725 Arch Street, Philadelphia.

New York and Philadelphia, March 12, 1892.

SCARLATINA.

OUR reason for presenting a number specially devoted to scarlatina is that at present Philadelphia and several other cities are suffering from an epidemic of this disease. That it is not a very severe epidemic may be seen from the following record of cases and deaths reported to the Philadelphia Board of Health :

	CASES.	DEATHS.
Week ending January 2, 1892	169	14
" " 9.	160	15
" " 16.	163	19
" " 23.	112	18
" " 30.	159	10
" February 6,	142	18
" 13.	159	8
" 20.	128	12
" 27.	166	13
" March 5,	210	19
Total, 10 weeks	1568	146

Mortality, slightly over 9 per cent.

For comparison we submit the report for diphtheria and typhoid fever for the same period :

	CASES	DEATHS.
Week ending January 2, 1892	136	48
" " 9.	122	42
" " 16.	88	32
" " 23.	62	36
" " 30.	98	31
" February 6,	119	29
" 13.	116	31
" 20.	80	42
" 27.	91	24
" March 5,	86	18
Total	998	333

Mortality, diphtheria, .33+.

	CASES.	DEATHS.
Week ending January 2, 1892	47	4
" " 9.	40	5
" " 16.	51	20
" " 23.	40	13
" " 30.	84	13
" February 6,	69	15
" 13.	84	18
" 20.	65	15
" 27.	72	20
" March 5,	54	14
Total	606	137

Mortality, typhoid fever, .22+.

In all three the mortality is too high. Philadelphia physicians do not lose 33 per cent. of their diphtheria cases, or 22½ per cent. of their typhoids. There is a great deal of carelessness in making the returns to the Health Office. The fatal cases are necessarily reported ; sometimes not until after the patient is dead ; but some physicians never report any others. The notification of infectious disease is a source of trouble wherever it is in force ; and of very unnecessary trouble at that. In England, where men are perhaps unusually indisposed to do anything on compulsion, the matter has been debated for a long time ; and even yet, scarcely a week passes without some correspondence on the subject appearing in our English exchanges. The unwillingness of patients to have these reports made has been enlarged upon, despite the fact that the greater the unwillingness (as in the case of persons carrying on business in their dwellings), the greater the public duty of making the report. Finally, it was ordained that a small fee (62½ cents) was to be paid to the physician for each report ; but this has not proved entirely satisfactory, as some members of the profession are said to have such a remarkable number of infectious cases in their practice that some suspicion of their correctness has been aroused.

Nevertheless, there is reason in the claim that the public should recompense the physician for the performance of a public duty. The last straw broke the camel's back ; and to the doctor who returns to his office weary from the day's labor, even the slight additional task of making out reports is onerous. As this is sometimes against the wishes of the patient's family, and is of no special benefit to the doctor, who is thereby impressed into the service of the city government, it is just that he should be paid for his reports. Even if the fee be very small, it would result in a great improvement in the records ; and by allowing the authorities to insist on a proper isolation of the cases, the health of the community would be improved. As it is, reports are made unwillingly, sometimes in so careless a manner that it is impossible for the Inspector to find the cases ; and sometimes the reports are not forwarded to the office until the patient is well or dead ; the other children meanwhile attending school (more frequently Sabbath-school), and disseminating the disease among their playmates.

Very little has been written upon scarlatina during the past year ; the whole world contributed but fifty-three papers on this subject during 1891, according to the *Index Medicus*. Scarcely any item of importance has been discussed, except the occurrence of scarlatina in animals ; and this has excited practically no comment on this side of the Atlantic. Of the two special methods of treatment advanced lately, neither Illingsworth's biniodide of mercury nor Wilson's chloral induced a single paper in 1891. Inquiry among many active practitioners has failed to discover any one who had employed either. We have been, therefore, compelled to fall back upon the books for what the journals have not given us, the views of leading physicians concerning the treatment of scarlatina. Extensive correspondence with the directors of medical thought at home and abroad has elicited

only the assurance that their treatment has not been changed since the publication of the various works on practice and therapeutics.

During 1891 this journal recorded the following notes on this topic:

Waugh¹ described a case of malignant nasal scarlatina that recovered under the profuse application of peroxide of hydrogen.

Manning,² in the *British Medical Journal*, advised the use of boric acid and glycerine for pharyngeal scarlatina.

Thorne³ (*Lancet*) claimed striking results from the use of oil of eucalyptus internally, and applied to the skin, with carbolic and tannic gargles.

Caiger⁴ (*Lancet*) analyzed 1,008 cases, with a mortality of 4.67 per cent.

Hughes⁵ recommended nitro-glycerine in threatened nephritis.

Chenet⁶ treats of the convalescent stage.

Jamison⁷ accelerates desquamation by employing antiseptic inunctions during the whole course of the attack. He recommends Eichhoff's 3 per cent. resorcin salicylic superfatted soap.

Assmann⁸ describes a case in which the contagion of scarlatina was apparently derived from a letter.

It will thus be seen that our gleaners gathered in some stray ears that had escaped the *Index Medicus*.

Annotation.

KOCH'S INSTITUTE FOR CONTAGIOUS DISEASES.

IN the *Deutsche Med. Wochenschrift* of February 11, 1892, Dr. Pfeffer gives an account of the purposes and general method of the Institute for Contagious Diseases at Berlin. As he is overseer of the scientific division, it may be of interest to note some of the main points mentioned.

While a number of diseases have been shown to be due to bacteria, there is a series of infectious maladies the causes of which are still in doubt. The acute exanthemata, measles, scarlet fever, small pox, hydrophobia, syphilis and other affections remain, up to the present time, an etiological puzzle, in spite of the best methods of investigation. It is the purpose of those in charge of the institute to make a thorough and systematic investigation of these diseases. In bacteria certain species of protozoa are brought to our attention; these include the large field of malarial diseases. The importance of the study of these species of protozoa is obvious. The knowledge of the germs of a disease is the first step to be made, and all the characteristics of such germs or virus should be investigated in every direction. Considering the short time that bacteriology has been a science, much is already known. We are thor-

oughly acquainted with the living conditions of the different pathogenic species. We know in what nutrient fluid they grow; what chemical and thermal influences assist or hinder their development, and how the infectious virus can be disinfected outside of the organism. But on the other hand we know little as to how the germ of disease enters the organism; such knowledge would be of the greatest importance for the prevention of infectious diseases. The diminution of pathogenic bacteria, vaccination that depends upon exterminating the virus, immunity through products of metabolism without introduction of living bacteria into the body, these are facts which can be the starting point for practical and theoretical studies. But it is concerning the question of immunity that investigators show great differences of opinion; some emphasizing cellular influences, others humoral.

The question of immunity leads directly to that of cure. In a large number of diseases caused by bacteria, as pneumonia, erysipelas, relapsing fever and perhaps enteric fever, the infected body rids itself of the parasite, since it loses the power of serving as a nutrient medium for the species of bacteria in question, as it becomes immune in the course of the disease. If this enigmatical, immune condition of the body could be produced artificially, we would be able to subdue the cause of the disease, and therewith the disease itself; and it would be the path by which nature herself proceeds. In addition to the difficulties arising from contradictory views and assertions, it will be necessary above all things to give close attention to the chemistry of bacteria, and the chemical combination formed from their influence in the body.

It is a mistaken idea that the infectious diseases should be treated after the same plan. These are bacterial diseases, and here tuberculosis especially is to be mentioned, where, according to present results, no immunity is attainable, and yet it not infrequently happens that tuberculosis heals spontaneously. Here nature's method does not consist in killing the very tenacious germs of the disease, but in repelling them, or rendering them harmless by cicatrical formation. A rational therapeutics will follow and support this method of healing. The discovery of tuberculin, the powerful product of the tubercle bacilli, fulfills these theoretical demands and is a powerful weapon against tuberculosis. The further investigation of the conditions under which tuberculin can best develop its healing influence, is one of the tasks of the Institute for Infectious Diseases.

The staff of scientific workers in the Institute is under the guidance of Dr. Koch; there are two overseers, four assistants, three voluntary assistants and quite a number of independent investigators. Only those are admitted who are thoroughly acquainted theoretically and practically with the principles of the doctrine of infection, and are able to carry on their work independently. Whoever enters the Institute must sign the following agreement:

"The undersigned hereby agrees to give over to the Board of Directors of the Institute the disposition of the results of his work at the Institute for Infectious Diseases at Berlin, and accordingly to submit his work, before publication, for approbation, and on leaving the Institute to make the necessary statements concerning the results of his work accomplished up to that time, and to give over to the Directory Board all the notes and records concerning the same."

¹ TIMES AND REGISTER, March 7, 1891, page 203.

² Ibid, May 23, 1891, page 438.

³ Ibid, May 23, 1891, page 438.

⁴ Ibid, June 27, page 542; and July 11, 1891, page 530.

⁵ Ibid, July 4, 1891, page 10.

⁶ Ibid, September 12, 1891, page 208.

⁷ Ibid, September 26, 1891, page 242.

⁸ Ibid, October 24, 1891, page 341.

Weekly conferences are led by Dr. Koch, where the opportunity is given to gain an insight into the works as a whole.

There is a close connection between the scientific and the hospital departments; the staff of the former is always represented at the daily visit by the bedside.

The autopsies, almost without exception, are made by Dr. Koch. Blood tissue, humors and organs are studied microscopically and bacteriologically, and experiments on animals follow, in order to elucidate thoroughly the case in hand.

ARTHUR MACDONALD.

GEORGETOWN MEDICAL SCHOOL, WASHINGTON, D.C.

Letters to the Editor.

SCARLATINA IN PHILADELPHIA.

MY treatment of scarlatina has been with febrifuges; inunctions alternating with tepid sponging; poulticing throat externally, and thymol in glycerine topically. Sulpho carbonate of soda alternating with lac sulphur internally. Milk and beef juice diet. In my thirty-three years' experience have not known of so many malignant (anginose) cases as have occurred this winter.

HORACE V. EVANS.

PHILADELPHIA.

NO SCARLATINA IN ALABAMA.

YOUR letter of 18th inst. read, asking for a letter from me on scarlatina. My reply may sound a little queer, but we have had no scarlatina in this section since 1856, though it has been within thirty miles on the same railroad. I am very much pleased with your special numbers.

R. V. SALMON, M.D.

DADEVILLE, ALABAMA.

SCARLATINA IN BROOKLYN.

IN compliance with your request, I would say that my treatment of scarlatina is largely expectant. When called early to a case I usually give small doses of tr. aconite for the fever and for the sore throat. If the fever is high, say 104°, I give two or three doses of antifebrin, especially if the patient is over three years old. February 28, I saw for the last time a case of unusual severity. The patient, a child of two years, had convulsions three times in the first twelve hours. I prescribed:

R.—Brom. sodii,
Chloral hydrat..... aa 3ss.
Fluid extract gelsemii f3ss.
Fluid extract jaborandi f3j.
Aqua menth. pip. q. ad 3ij.

M.—Sig. 3j every two hours until nervous symptoms subsided.

After the third dose no more convulsions occurred. The throat becoming worse I prescribed tr. ferri chloridi gtt. iv. every three hours. When the child was convalescent I instructed the parents to let me know *at once* in case of any swelling of the parotid gland, or about the eyes or feet. Several days later, some of these symptoms occurring, I examined its urine and ordered inf. digitalis. The swelling at once began to subside and the albumen disappeared from the urine. At my last visit I always give strict orders to let me know immediately in case of any glandular swelling or dropsical effusion. For while I have never lost a

case of scarlatina, I did lose one with nephritis following it. The parents, thinking the child had mumps, did not send for me until too late.

J. N. ROE, M.D.

1481 GATES AVENUE, BROOKLYN.

SCARLATINAL DIPHTHERIA.

IN the month of January I was called to see a child four years of age, broken out with a rash, presenting a miliary appearance, excepting that there was no elevation of the skin. Between the points (which, on a casual glance, appeared as an eruption from heat), there was intervening healthy tissue. Another character of the eruption was that there was an evident sensation of itching shown by the child's desire to scratch. The tongue was heavily loaded with a brownish fur extending from the tip to the base, and reflected over both tonsils. Upon the tongue depressor being applied, the child gagged up a quantity of the same substance which was of the consistency of thick cream. In scraping off the coating from the fauces there was a slightly bleeding surface exposed. The tonsils were much enlarged, presenting a hardened appearance under the angles of the jaw. There was a constant flow of viscid saliva from the child's mouth. It could drink without apparent difficulty, and frequently called for milk, but had no desire for solid food.

At the time there was a mild epidemic of scarlatina in an adjacent district three miles away. In two neighboring villages there had been a loss (in a family at each place) of two children from either membranous croup or diphtheria. I was at a loss for a positive diagnosis, but inclined to the belief that it was diphtheria, and put it upon that line of treatment.

Upon making my visit next morning the tongue presented the strawberry appearance, and upon again applying the tongue depressor, a still greater quantity of the membrane or coating was thrown from the throat. There was a general improvement in that the appetite was better and the eruption was fading. On the third morning the father of the child told me it was so much better that it wasn't necessary for me to come again. I never saw the case again professionally, but was told by the father that desquamation had taken place. About three weeks subsequent to my dismissal the parotid and sub-maxillary glands were in a state of suppuration for which the lancet was required. In a couple of weeks a nursing infant in the same family was attacked in a similar manner (as I learned from the attending physician), excepting that there was no membrane over the tonsils and fauces, and died in four or five days from asphyxia as a result of inflammation and enlargement of the tonsils. Was the first case simply scarlatina, or was it complicated with diphtheria?

JOHN W. BRYANT.

NEW MARKET, MISSOURI.

TREATMENT OF SCARLATINA.

THE child should be put to bed in a large ventilated room, and not covered with a superabundance of bed-clothing. The whole body should be greased with either of the following, night and morning:

R.—Acid carbol.....	m. xx.
Vaseline.....	3j.
M.—Sig.	
R.—Ol. menthæ pip.....	m. xv.
Ol. olivæ.....	f3ij.
M.—Sig.	

Milk must constitute the diet, and a mild aperient may be administered every few days. Cooling drinks may be given, and should the temperature run very high tepid sponging must be resorted to. The following prescription I have always used for the throat symptoms, combined with the external application of turpentine and olive oil 1-3, or hot compresses, kept around the neck and frequently changed:

R.—Tr. ferri chlor. fʒj.
Potass. chlorat. gr. xlvi.
Glycerini. fʒj.
Aqua. q. s. ad fʒij.

M.—Sig. Teaspoonful every two hours for a child of four years.

The throat should be kept clear by the use of a spray of Dobell's solution, if the child be old enough to allow the procedure. Stimulants must be freely given, such as the carbonate of ammonium, alcohol and the tincture of digitalis. The complications should be treated, excepting the nephritis, on their own merits.

For scarlatinal dropsy the child should be put to bed and kept warm. The diet should be liquid, and the bowels kept freely opened by jalapin (gr. j.), or by the daily use of a Seidlitz powder. A warm bath should be given daily, temperature of the water being about 100-110° F. After removing the child, he should be wrapped in warm blankets and put back to bed. Should the above treatment prove unsuccessful, dry cupping and frequent hot applications may be made to the lumbar region. Digitalis should be used in from one to five-drop doses, or combined as in the following:

R.—Tr. digitalis m. xxiv-xlvii.
Spt. æth. nitro fʒij.-3iv.
Liq. ammon. acetat. fʒj.-fʒij.
Syr. simp. fʒss.
Aqua cinnam. q. s. ad fʒij.

M.—Sig. Teaspoonful every two hours for a child of six or eight years.

R.—Tr. digitalis 3ss.
Elix. simp. 3ss.
Liq. potass. citrat q. s. ad fʒij.
M.—Sig. Teaspoonful every two hours.

Should suppression of the urine or convulsions manifest themselves, free purgation must be secured, and the bromide and iodide of potassium given internally. The writer has had remarkably good results with the fluid extract of jaborandi by the mouth in connection with hot packs.

When the acute symptoms have subsided, tincture of the chloride of iron or Basham's mixture should be given. During convalescence the child must be kept warm, wearing flannel next the skin, and the general health should be carefully looked into for some time after. Much care should be given to the proper disinfection of the clothing, bedding, etc., and always insist, when possible, to have the wall paper removed and the paint scraped off, repainting and papering throughout.

W. M. POWELL, M.D.

ATLANTIC CITY, N. J.

SCARLATINA.

I AM inclined to think that the main common errors relating to scarlatina are in a misuse of the term malignant; in believing a second attack more common than it really is; in pronouncing certain throat conditions found diphtheritic, which are not such, and in too active local and systemic treatment.

Let me take these up seriatim. Malignancy must have a restricted and specific meaning, if it is to be of value in the classification of cases. It must not be applied to all dangerous or even to all fatal cases. With their high fever, bad throats, disturbance of rest, and strain on the enunctories, all well-developed cases are anxious ones. With their liability to dangerous sequelæ, even mild cases entail prolonged concern, and of either class, under even expert management, a small percentage will most probably die. But in truly malignant cases, we have quite another picture. Within a few hours after the onset, or within a few days at most, your patient is dead or dying, while the fever may not even be high, or the throat much affected. The rash has not had time to appear or have sequelæ developed. You can only account for the condition by regarding all the centers of life suddenly overwhelmed by the action of a powerful poison, as sure in its effect as any of which the toxicologist has knowledge, and almost as rapid in its action.

Diphtheria may arise from the exposure to the scarlatinal contagion, in a subject protected by a previous attack or otherwise, but as an actual complication of scarlatina, comparatively, seldom. There may be difficulties in diagnosis in either case, but they are not sufficient to justify frequent errors. Simple severity of the throat lesion can not be made the criterion. Each has its distinctive characters which must be discriminated, and taken in connection with the other symptoms presenting to arrive at the correct conclusion.

Second attacks do, no doubt, occur, but the mere statement of the mother, or even the diagnosis in a former attack, by yourself, is not conclusive in this direction. The history of one or the other of the attacks is nearly always incomplete, and great room is left for doubt.

The great majority of cases do well with good nursing and carefully regulated hygienic conditions, under comparatively simple medication. The administration every two, three or four hours of tr. ferri chlor. and glycerine in rather full doses, with from a scruple to two drachms of chlorate of potassa in solution daily, will come about as near acting like a specific as anything in the *materia medica* could be expected to do. Of course, the bowels must be looked after, the itching must be relieved, and some other symptoms may have to be met. But to resort to powerful depressing antipyretics because the thermometer may rise to 104° or 105°, I do not think advisable.

The throat may need more local attention than it gets by the frequent administration per orem of the drugs above-mentioned (iron and potash), but the cases in which it is necessary to brush, insufflate, spray, probang and syringe, are the exception, rather than the rule. The resistance to these measures, which most children make, tends to exhaustion, and even were we to admit that such measures had an intrinsic merit, we might still hesitate in their routine adoption on these grounds.

Where a malignant case appears, we must, of course, meet it by a modification of the course which generally applies. Nothing that has yet been recommended can be said to be entitled to any great degree of trust. But few positions in which the practitioner can be placed, will draw more heavily on his knowledge of the general principles which regulate practice, or call forth more imperatively the application of all his skill and energy.

SAMUEL WOLFE, M. D.

NO SCARLATINA IN NOVA SCOTIA.

YOUR favor of the 18th inst., honoring me with an invitation to write for the "Scarlatina Number" of your valuable paper received. In reply, would state that I would take great pleasure in so doing, but my experience practically, of scarlet fever, has been so slight during the four years I have been in practise that it is not worth anything.

We have never had any epidemic of scarlatina, and I have only had two endemic cases of such a mild type that I did not take any notes of the cases, and the treatment was unimportant.

JOHN M. ROBERTSON, M.D.

HOPEWELL, N. S.

SCARLATINA IN ILLINOIS.

AS you request facts and experience relating to scarlet fever, I will state that recently in my practice a sporadic case occurred that presented threatening symptoms, pulse 150, small and weak, eruption tardy, not well developed, or of a bright color, loose bowels with offensive stools, mental dullness and stupor. Otherwise, symptoms commonly characteristic of scarlet fever, including sore throat.

Three remedies were prescribed in successive, hourly rotation; atropine, sulpho-carb. zinc and peroxide hydrogen, the latter by atomizer to throat in full strength, and the two former in solution, small doses internally.

I will not occupy space by giving details; suffice it to say that the unpleasant features of the case soon gave way, and it went on to successful termination, after the lapse of usual time, and without the use of any other remedies. No sequela except slight rheumatism.

I would add that inunctions of goose oil were employed through the fever and during convalescence.

GEO. N. JENNINGS, M.D.

TONICA, ILL., Feb. 16th, 1892.

SCARLATINA IN CHESTER COUNTY, PA.

I SAW in THE TIMES AND REGISTER your willingness to receive reports on "Scarlatina." I herewith send my epitomized notes on some of about twenty cases treated during last summer and autumn, of all usual phases of the disease.

The symptoms of scarlatina are, or should be, sufficiently plain to all of us. Such as short duration of invasion, intensity of pyrexia, appearance of efflorescence generally on throat, prior to eruption on upper part of body and arms, neck and face, with rapid extension of efflorescence in serrated patches, or solid scarlet color over the whole surface, in well marked cases.

In treatment I use from first to last benzoate of soda in doses from 5 to 10 grains every two to four hours to promote osmoses in the entire mucous surfaces, which controls, to a marked degree, the congestion in the throat, as well as the renal passages, obviating or lessening the danger of angina and acute nephritis, being as well a mild germicide. For symptomatic remedies I give tr. aconite gr. j. every hour in the initial fever, with tr. belladonna gtt. ij. to vi. every two hours if eruption is pale or tardy, when keeping comfortably warm in bed does not augment its appearance. If there is vomiting, give one-drop doses of one part carbolic acid with two parts of tr. iodine every two or three hours. For high fever acetanilid gr. iij. to v. every three to five hours. For throat symptoms, if needed in connection to soda benzoate,

spray throat every two to four hours with peroxide of hydrogen, with equal parts water (boiled and cooled), or the following may be used:

R.—Glycerine.....	3v.
Tr. aconite.....	gtt. viij.
Camphor gum.....	gr. xv.
Carbolic acid (cryst.).....	gr. xv.

M.—Sig. Apply to parts several times daily.

Attend strictly to the hygiene; have the patient sponged all over sufficiently often—every two or three days—with warm water to 2,000 of bichloride mercury, and change bed-linen often; remove immediately all discharges from house, better hurry and disinfect all vessels used in and about room. Platt's chloride is efficient and pleasant to use.

The above are the agents I used in the number of cases mentioned, with occasionally other remedies when little complications occurred, without the loss of life in any instance and without sequelae.

DR. TRUMAN COATES.

RUSSELVILLE, PA.

SCARLATINA IN CONNECTICUT.

I WROTE you a note to which you gave the title of "A Curious Case of Probable Scarlatina," in THE TIMES AND REGISTER of February 20. As you so kindly gave me your opinion on the case I have made a few more inquiries as you suggested, with the result, as you will find below, of finding the probable source of contagion.

The children had not eaten shell-fish the day before being taken sick, but beyond this I could not learn what the articles of diet had been, except ordinary food as meat and vegetables. The parents had not had scarlatina previously, but I learned that the children had visited at a house and slept on a bed where children had been sick with, as they expressed it, "The funniest measles they ever saw." And the head and limbs of one of the latter children had swollen to a large size after being exposed to the cold, before fully recovering from its illness. Probably this was due to an acute attack of nephritis. Although the children, as I mentioned in my first letter, had a vesicular eruption with the scarlet rash, I think, as before, that I was justified in the diagnosis of scarlatina.

M. D.

BRIDGEPORT, CONN.

SCARLATINA IN NEW JERSEY.

I N scarlatina, either simple or malignant form, the parts of the organism most affected are the skin and mucous membrane. In the malignant form the cerebro-spinal system is also affected, while in even simple scarlatina we *may* have well-developed trouble of the nervous system.

The treatment which has given me best results in former years has been those remedies which will develop the rash, allay the sore throat and reduce the temperature, and in malignant forms to quiet the nervous phenomena. Authors have questioned the use of digitalis in febrile complaints, but it has given me great satisfaction the first two days in scarlatina, given in two-drop doses every four hours to a child five years old. Aconite and belladonna answer the requirements as to fever and rash; indeed, the belladonna has brought out the rash of scarlatina and measles for me when it seemed as if the tardiness of the outbreak would prove fatal. In a child of six years I prescribe aconite and belladonna, of each a half drop of the tincture every hour, till the fever is reduced and the rash is abundant.

The digitalis acts on the kidneys, but insufficiently, and I have prescribed pilocarpine cautiously, but have gone back to spirit of nitrous ether.

To allay the mucous trouble, the remedy of most value is hydrate of chloral, which should be prescribed in sufficient doses, and every four hours. The action of this medicine does not depend, as some believe, upon the change into chloroform, but rather is the action of chloral liberated. Such at least is my opinion of the results and working of the drug. The dose prescribed is two grains. This remedy has proved of much value in my cases, increasing the urine, producing sleep, obviates the danger of albuminuria, and acts as a disinfectant to the urinary tract. I find in malignant cases when chloral is used, complicating diseases are very seldom encountered.

From the beginning to end of treatment I use antiseptics for throat and nasal cavities, and also for the alimentary tract, which latter should be kept in the normal condition by suitable laxatives. For the throat and nose I prefer peroxide of hydrogen in spray, and for the alimentary tract permanganate of potassium, sulpho-carbolate of zinc, or listerine.

During convalescence, strychnine and iron are indicated, but, in my estimation, never quinine, because of its action on the circulatory system.

The care of the patient so he may not spread the disease is well understood by all, yet I deplore the use of inunctions during convalescence, and use, instead, a warm disinfecting wash made from Platt's chlorides—one part to water four parts.

To recapitulate—for simple scarlatina, give for a child of five years :

R.—Tr. digitalis.....	m. xxij.
Sp. nit. ether.....	3ij.
Aqua.....	5ij.

M.—Sig. One teaspoonful every four hours.

Also,

R.—Tr. aconiti,	
Tr. belladonnae.....	aa 3i.

M.—Sig. One drop in water every hour until rash appears.

For malignant scarlatina, use instead of the first prescription :

R.—Chloral.....	gr. xxx.
Fl. ext. licorice,	
Aqua.....	aa 5i.

M.—Sig. One teaspoonful every three or four hours.

Use antiseptics for throat, nose and bowels.

S. B. STRALEY, M.D.

HUNTSVILLE, N. J.

SCARLET FEVER IN NEWBURYPORT.

BETING requested to write something for the "Scarlet Fever Number" of THE TIMES AND REGISTER, I have thought that a brief statement of what I know about scarlet fever from personal experience would be more satisfactory than any exposition of what I have read or otherwise learned of the disease.

Scarlatina has been of late a relatively infrequent disease with us, though formerly epidemics would prevail every year or two. Such an epidemic we passed through in 1874. At that time (it was in the winter) every physician was kept busy for several weeks with scarlatinal cases. I remember to have had patients in all parts of the city; in some families all the children were sick, and the mortality was considerable. All forms of the disease prevailed, and many patients died from the sequelæ and complications.

We had no well equipped, alert, and active Boards of Health at that epoch. The Mayor and Aldermen constituted the Board of Health. The duties of the Board of Health were only part of their multifarious duties, for which they received no pay. The principal function of said board was to inspect stables, privies and cesspools when complaint was made of a nuisance. In towns the Board of Selectmen constituted the Board of Health. These boards seldom included any physician in their membership. I do not remember that any arrangements of quarantine and isolation were ever thought of in the case of scarlet fever, measles, or diphtheria. Physicians were, of course, expected to be careful; to fumigate themselves with burning sulphur after visiting scarlet fever patients; and some were so particular as to always change their clothes before visiting other patients. At the same time no special pains were taken in the way of prophylaxis and isolation, and families were not required to adopt measures of disinfection, or, at the most, such means were slovenly and incomplete.

Now, things have changed. Our Boards of Health enforce very stringent regulations. Cases of scarlet fever must be reported as soon as the diagnosis is made. Then the agent of the Board of Health puts up the red card on the building. All children belonging to that household must be kept at home, and there must be no visiting that house by other children. Disinfectants are liberally supplied from the first; sulphur is burned in the principal rooms of the infected house every day, and after the pestilence is over, the greatest pains in disinfection are enjoined. Every room in the house must be fumigated, and every object capable of retaining the infectious germs cleansed or destroyed. The agent of the Board of Health often superintends this work personally, and I can testify that the fumigation is generally done thoroughly. Lotions of corrosive sublimate, chloride of zinc, etc., are freely used as adjuvants.

There has unquestionably been a marked limitation of the ranges of this dire disease since the establishment of Boards of Health as a separate branch of municipal government with a physician as chairman, and since well organized efforts have been made to prevent or to stamp out epidemics, we now have no epidemics of scarlet fever; if it prevails at all, it prevails sporadically. There are old tenements of this city that have become the breeding places of this disease; the germs adhere to the walls, or to chinks in the floors, or to other appurtenances, and every year or two sporadic cases occur. Scarlet fever will probably for many years to come be endemic in certain parts of all our old cities, but we do not now fear any general epidemic.

I have seen but few cases the past year. Was called to Byfield in January to attend in consultation with Dr. Rogers four patients in one family; two were very sick with formidable angina, and high fever and delirium; all, however, got well. The contagion was traced to some clothing worn by a scarlet fever patient a year ago; this was unpacked from a trunk in the presence of these children and handled by them.

I have just been witness of a family epidemic. Five children in one house on the Salisbury road have been sick with scarlet fever; one, an infant, died. The case of the infant was peculiar. This child was the first one taken, and died after three days' sickness with the symptoms of acute meningitis. The prostration, the lividity, the dry, black tongue, the constant vomiting, etc., were something phenomenal, and I knew not to what to refer these symptoms;

they resembled some cases of fulminant septicæmia. I did not think of scarlet fever in this connection. The family were living in a new house. There was no scarlet fever in the neighborhood. Four days afterwards the other children were down with the characteristic symptoms of scarlet fever. I was thunderstruck! Where did the disease originate? There was now no doubt in my mind that scarlet fever was the disease from which the baby died. It was a scarlatinal meningitis. The mystery was soon solved. Ten days before a little girl belonging to the house above had visited the children, and had played with them. This girl had just come from Seabrook, and had visited the house of an uncle, two of whose children were at that time sick with scarlet fever! There was a clear history of contagion carried in the clothes.

As regards the treatment of scarlet fever I am strongly of the opinion that one man's treatment is about as good as another's, provided there be due judgment exercised. Mild cases will get well without much dosing. Bad cases need to be treated as you would treat any kind of septic poisoning. My favorite prescription is 5 drops tincture ferri chloridi, with 3 of chlorate of potassa in a drachm of syrup, every two hours. Sometimes acetanilid is of advantage, and I have used the wet pack in severe hyperthermia. Scarlatina angina demands treatment on general principles.

E. P. HURD, M.D.

NEWBURYPORT, PA.

SCARLATINA IN CALIFORNIA—HOW SEQUELÆ MAY BE AVOIDED.

THE writer has seen three epidemics as student and practitioner. The first, as student in the winter of 1850-51; the second, in Oregon, in 1862-63; the last, in California, 1869-70. Had always suspected that the dropsical-sequela was a result of careless nursing, until in his own family, the same sequela occurred, and this led, during latter portion of the second epidemic, to formulation of a different treatment.

Scarlatina being divided into three kinds or degrees, simple, grave, and malignant, the effort was suggested to his mind, that in some cases at least, the malignant might be changed to grave, if not to the mild form, by special treatment during the first day, or later; but experience has proven that what can be effected in this direction must be done during the first four days, if it can be done earlier the better. In addition, the belief that scarlatinal poison tended to induce the hemorrhagic diathesis, led to the selection of sulphuric acid as the chief medicine in mild, grave, and malignant cases whenever met.

In any case diverging from the mildest form, a hot sheet pack was given to every case where the temperature was 103° to 105° ; and pulse corresponding, in a child from 130 to 140, something must be done at once, for the all-consuming heat must be reduced quickly. We have our antipyretics, invaluable in their place; but here they are not always reliable, and if we dared to press them sufficiently to reduce the temperature in so short a time as seems necessary the shock might prove fatal, and the eruption never be shown, or caused to retrocede. In severe cases such attempts would almost surely prove fatal.

But if in trusty hands, when temperature of patient is 103° and above, skin dry, and a correspondingly rapid pulse, surely the patient is in danger; and by a hot pack, cold drinks to relieve the thirst until the skin becomes moist, and then the heat carefully

(gradually) removed, drying under cover, and then a rubbing-lubrication of the whole surface, with palm of hand, under cover, comfort will have been induced, and danger averted. Should temperature again arise to 103° a repetition should be had.

So soon as diagnosis of scarlet fever is made (any imaginable condition of a patient with temperature of 103° and upward, dry skin, and pulse rapid and strong, would not be injured by the treatment); prepare the bed with a rubber sheet and cover it with a pair of blankets, double the sheet lengthwise, strip the patient, lay him upon his face, dip the sheet into a vessel of very hot water (at bedside), wring water out to have so much heat retained as possible, spread over back of patient quickly, turn him over and secure the sheet from neck to feet with safety-pins. The arms are commonly both included, but sometimes one hand is left out to gratify a restless child. The blankets are now also pinned together in same manner as the sheet, and the patient covered by the bed-clothing. All is covered but the face. Give cold water by spoonfuls, every few minutes at first until thirst is assuaged, and so often as desired by patient. A renewal of such an application should be made every three or four hours regularly, night and day, for three or four days, or until perspiration is fully established; the removal of sheet is made by drawing it from under the bed-clothes without disturbing the temperature around patient's body by exposure, and he is left between the two blankets. The treatment may not require a repetition at all; but if so, three or four times has always proven enough to secure desired results. Only a trained nurse can be trusted with this treatment; for, in ignorant or careless hands, the danger is great; therefore, when absolutely necessary, the writer pulls off his coat, and does the packing for the first time himself. After this treatment, carefully given, a malignant case becomes milder, at least, if not the very mildest. An occasional child may cry out and worry; but so soon as the pack is about its body, and motion ceases, sleep always follows. Rather than expose patient to air of room, allow the urine to pass into the pack; cloths, or a bed-pan may be used to receive stools without disturbing the sheet and blankets. Give cold drinks when desired, and the sulphuric acid in the form presently to be mentioned. Thirst is soon allayed after the pack, and complete quietude follows.

This treatment, given carefully, the physician often having to be present himself, commonly the condition of patient is changed from a dangerous to a safe state. It then takes a mild course. To illustrate, a few cases are given:

Case I. Girl, nine years old; hurried call; early morning; messenger stating that his sister had gotten up early and returned to bed, and could not be awakened. My patient was found comatose as completely as if she were anaesthetized; same rigidity and tetanic convulsions. During the early summer a few scattering cases of scarlatina had occurred in town, and scarlatina was but suspected; an attempt to open mouth to administer medicine failed. So soon as preparations could be made the body was packed as above described, and bottles of hot water placed under bedding from arm-pit along body, and around feet; the coldest water obtainable was put into her mouth, drop by drop, and for nearly three hours work was necessary before reaction came on, when she awoke rational; eruption could be seen, and recovery came on as in a simple, mild case.

Case II. An aunt in same house, near forty years of age, became ill a few days later, with simpler form of

scarlet fever; temperature was high; throat sore; aching all over; prostration very profound. Following visit next day, no eruption; temperature $104\frac{1}{2}$; pulse, 140 and wiry. Concluding that a grave case was in hand the hot sheet was ordered, as above described. Anxiety caused an earlier call than usual, and found my directions had not been properly attended. So took the work upon myself, as had been my habit when younger, and made a good packing. Sweating followed very soon, temperature dropped to 104° , and pulse to 130. Cessation of perspiration, or of moisture, rather, occurred some hours after, and the pack was renewed same day.

Next morning temperature $102\frac{1}{2}$; pulse, 120. Eruption was never fully developed, but a complete recovery resulted.

Case III. A four-year old boy, taken with vomiting, with high fever. Had exposure to scarlet fever, and usual treatment by remedies was given. Eruption was fully established next day on body and arms; little on lower extremities; temperature, 104° ; pulse rapid, and tendency to stupor. The hot pack was made; repeated in a couple of hours, inducing moist skin, a lowered temperature, slower pulse; in short, the case was changed from a severe to a mild one. Hundreds of cases, many much more malignant, were changed from the malignant form to the grave, or commonly to the simple form.

Sulphuric acid was given in form of infusio rosæ compositus, as elegant in appearance and pleasant to take. Additions of acid were made, according to age of patient, or rather the malignant tendency of the case. When catarrhal symptoms predominated a few doses of tinct. ferri perchloride were given for twenty-four or thirty-six hours, instead of the inf. rosæ co., and the latter again resumed.

No sequelæ have ever occurred in my practice, since the above treatment was adopted, and neither cathartics nor even the simplest aperient allowed. When the lower bowels needed emptying a simple enema was used.

No fear now remains upon me from sequelæ from scarlatina.

Occasionally I have to take charge of some other physician's case; here the throat and nostrils are washed out with Labarrague's solution chlorinated soda much diluted, and some of the sulphuric acid given during and after the washings to neutralize the alkaline material which may have been swallowed during the syringing. These syringe washings, as well as the packs, are best done by the physician himself; at any rate for the first time.

Lubricate, from first to last, when not in the pack, with glycerine and rose water, q. s., to remove stickiness, repeated often enough to have the skin feel as though a gentle perspiration was just commencing, and so keep the surface of the body moist all the time.

Temperature of room during fever, 65° to 70° Fahrenheit; when desquamation commences, from 75 to 90, the latter preferable. J. L. COOMBS, M.D.

GRASS VALLEY, CALIFORNIA.

SCARLATINA IN BERKS COUNTY, PA.

SCARLET fever in my locality has been rather mild, with three or four exceptions.

I had some thirty cases, all of which recovered, but one was carried off three weeks after, having an attack of nephritis.

In the mild cases I put them to bed in a warm, ventilated room, removed all unnecessary furniture and kept them on a light, nourishing diet; for the

vomiting I gave ice freely, and restricted drinks to a few swallows at frequent intervals.

As for medicine I gave:

R.—Tr. aconiti rad. gtt. x.
Sp. aethereis nitrosi. 3ij.

M.—Sig. Ten drops in water every three hours for a child six years of age.

Also, for the sore throat I used:

R.—Tr. ferri chloridi. 3j.
Glycerini. 3iss.

M.—Sig. Teaspoonful every three hours.

For the intense itching I used vinegar and water, and had them sponged every four to six hours, as case presented itself.

One of my severe cases I will give in detail: Manassas L., aged sixteen, of a rather nervous character, was attacked on February 10 with vomiting, severe headache, epistaxis, sore throat, general malaise, and temperature was 104° F., pulse 120. Saw patient next day, all symptoms aggravated, temperature 105.5° , and the skin eruption did not appear till the afternoon of March 12, when his temperature was 106.8° , pulse 148. I ordered a sponge bath of cold water every four hours; used Prof. Waugh's chlorine mixture, also

R.—Antisebrin.

Quinine aa 3j.

M.—Chart No. xii.
Sig. One every four hours; chlorine mixture one teaspoonful every two hours.

As a gargle I used carbolic acid; to the enlarged glands I applied tr. iodine; also gave ice, egg-nog, milk and wine. Next day found patient slightly improved but a very bad throat. Same treatment continued, and that night the boy's father thought he was dying, when he vomited and threw off a mass of membrane, after which he rested well during the night, and slowly recovered. His voice and hearing are somewhat affected, but I think he will in time fully recover.

J. W. FRANKHOUSER, M.D.

SHARTLESVILLE, PA.

SCARLATINA IN FRANKLIN COUNTY, PA.

THE following is an accurate statement of a case which came under my charge some four months ago. I was called to see a boy, fourteen years of age. His mother said he had a strange eruption appearing on his face and body. After inquiring and making a careful examination of the case, my mind at once reverted back to the hours that I had the pleasure of listening to your lectures on the practice of medicine, and especially your lectures on scarlet fever; and hearing you say the germ would live for years in the laid away clothes of persons who had suffered from the disease. At the time of this case there were no cases of scarlet fever any where within a radius of twenty miles. I carefully inquired of my professional brothers of the section, and they said they had no cases of scarlet fever. I then made a careful examination of the house all through, and in the garret in a corner stood an old chest, which had been handed down from one generation to another, and had been used to store away old clothes. I then asked the mother if any of the family had been sick with or had died of scarlet fever. She replied that her father had come home sick, and the physicians said he had scarlet fever. He lay sick for some weeks and died. I then asked what had become of his clothes. She said they had been stored away in the old chest in

the garret for thirty-five years, but that she had recently taken a pair of her father's pants and made out of them a pair to fit his grandson. The latter had only worn them a few days when the rash made its appearance. When I was called in I found the skin had become turgid and swollen, and presented a uniformly red and glistening appearance. I also found more or less serous and lymphoid exudation in the "rete malpighii." This was followed on the decline of the redness of the surface by an abundant epidermic exfoliation. The boy complained of sore throat. I found he had catarrhal pharyngitis, the tonsils and pharynx red and swollen. The following were his main symptoms: Severe headache, pain in back and limbs, and coldness of the surface. After this followed sensations of intense heat.

The pulse at this time was 130 per minute, there were nausea and vomiting; also a rapid rise in the temperature, which was 104°. This lasted forty-eight hours; the eruption then made its appearance and the fever increased. He complained of a burning sensation, delirium and nausea; tongue swollen, the organ presenting the appearance of the strawberry tongue of scarlet fever. On the eighth day of the attack the temperature began to decline and the eruption faded; this lasted until the evening of the ninth day when desquamation commenced.

His treatment consisted in the following: I allowed none of the family in the room; no one but his nurse; removed all pieces of furniture with the exception of the bed; gave him plenty of fresh air; disinfected all of his clothes; burnt the stools; sponged the surface and rubbed it with olive oil; the floor, windows, and everything were thoroughly disinfected by me. I used as antipyretic measures the sudden application of cold to the surface by sponging, and gave quinine, and sprayed the throat with carbolic acid, tr. ferri, chlorate of potassa, and used hot applications to the throat; I also gave small doses of calomel and digitalis. This patient lay critically ill for over three weeks; after which time he began to improve rapidly, and so far has had no sequel of any kind that I can see.

Following this case I had a number of others of a milder form; all improved for me, not losing a single case. I hope this will prove interesting to the many readers of your valuable journal, and demonstrate how scarlet fever may develop without there being any cases of it near.

WILL EDGAR HOLLAND, M.D.

FAYETTEVILLE, PA.

The Medical Digest.

PRESCRIPTIONS FOR SCARLATINA.—

R.—Ammonii carbonatis 3j.
Syr. simplicis f3j.
Aquaæ ad f3jiss.
M.—Sig. A teaspoonful every hour, or every two or three hours, according to the severity of the case.

—Pearl.

R.—Ammonii carbonatis 3j.
Syrupi acaciæ f3vj.
Liquoris ammonii acetatis. q. s. ad f3ij.
M.—Sig. A teaspoonful every two hours.

—DaCosta.

R.—Infusi digitalis f3iv.
Sig. One-half to one teaspoonful every two, three or four hours.

—Bartholow.

R.—Tincturæ digitalis f3ss.
Syrupi simplicis f3ss.
Aquaæ destillatæ q. s. ad f3ij.
M.—Sig. A teaspoonful every hour or two, according to age.

—Bartholow.

R.—Tincturæ aconiti radicis m.j. iij.
Syrupi simplicis f3ss.
Aquaæ destillatæ f3iss.
M.—Sig. A teaspoonful every hour or two, according to age.

—Bartholow.

R.—Tinct. aconiti radicis f3ss.
Sig. One-half to one drop in a teaspoonful of water every quarter hour for two hours; afterwards hourly. If there is much prostration, with feeble pulse, a smaller dose should be given.

R.—Acidi carbolici 3ss.
Olei olivæ ad 3x.

M.—Ft. solution.
Sig. Anoint all the body except the face (on which pure olive oil is used) twice daily for four to six weeks, and followed by a warm bath at night.

R.—Acidi carbolici gr. xxx.
Thymoli gr. x.
Vaselini 3j.
Cerati simplicis 3j.

M.—Sig. Apply to the whole body night and morning. A warm bath to be given at night; also paint the patient's throat with—

R.—Boroglyceride (50 per cent.) 3ij.
Sig. Apply frequently to the patient's throat with a brush (to prevent contagion).

—Jamieson.

R.—Resorcin 3ij.
Lanolini 3iss.
Olei sesami f3ss.

M.—Ft. unguentum.
Sig. Rub into the skin (to hasten desquamation, and to eliminate the specific poison).

—Jamieson.

R.—Acidi carbolici cryst. 3x.
Aquaæ 3j.
M.—Sig. Three to six minims every two hours, day and night, during the first three days. If the patient is doing well, give every three hours for four or five days; then every four hours until all danger is passed; then, thrice daily, until convalescent. Do not exceed eight minims at a dose, but give until the urine is smoky or almost black; also give one minim, thrice daily, to all exposed persons.

—Wiglesworth.

R.—Antisebrin gr. xv.
Sacchari albi gr. xxx.
M.—In pulv. No. x, div.
Sig. A powder as required by the fever. For a child three or four years old.

—Widowitz.

R.—Hydrarygi biniodidi gr. j-vj.
Ext. glycyrrhizæ gr. xij.
M.—Ft. massa et in pil. No. xxiv div.
Sig. A pill every four hours.

—Clement Dukes.

R.—Tinct. ferri chloridi 3ij.
Potassii chloratis 3i-j.
Syr. simplicis f3iv.
M.—Sig. A teaspoonful every hour or two to a child of four or five years.

—J. Lewis Smith.

R.—Acidi hydrochlorici m.v.
Syrupi aurantii florum f3ss.
Aquaæ destillatæ f3iss.
M.—Sig. A teaspoonful every two hours.

—Ellis.

R.—Ex. jaborandi fl. f3ss.
Liq. potass. citrat. q. s. ad f3ij.
M.—Sig. Teaspoonful every four hours at the age of six years (scarlatinal anasarca).

—Starr.

R.—Ol. menthae pip. m_{xx}.
Ol. olivæ f₃ijj.
M.—Sig. Apply to body night and morning.

—Starr.

R.—Pulv. digitalis fol. 3j.
Aq. buluentis f₃vj.
M.—Sig. Give one teaspoonful every hour until you get the physiological effect.

—Atkinson.

R.—Acid. carbol. gr. xx.
Thymol gr. x.
Vaseline, vel ung. simp. 3j.
M.—Sig. Rub in well.

—Starr.

R.—Acid. salicylic. gr. xlviij.
Aquaæ f₃ijj.
Syr. aurantii q. s. ad f₃ijj.
M.—Sig. Teaspoonful every hour during the day, and every two or three hours at night.

—Hare.

THERAPEUTICS OF SCARLATINA.—Whitla has found no specific. As a broad rule, "scarlatina is dangerous only through the officiousness of the physician." As a preventive, anoint with carbolized oil 1 to 50, or better, oil of eucalyptus.

For the early stages :

R.—Sp. etheris nitrosi. 3ij.
Liq. ammonii acet. 3jss.
Potassii citratis. 3j.
Syrupi. 3j.
Aquaæ camphoræ. q. s. ad 3iv.
M.—Sig. 3j. every three hours.

Diet almost exclusively milk; nephritis rare. If fever runs high, antipyrine, or, in adynamic cases, quinine.

For hyperpyrexia, tepid baths and cold affusions. Salicylate of sodium acts well as an antipyretic.

Biniodide of mercury; on the whole, the reports are favorable; $\frac{1}{2}$ grain may be given in sweetened water, with two grains of potassium iodide, every two or three hours.

Mineral acids are as harmless and as grateful and beneficial as in other fevers.

Oxygenated water and peroxide of hydrogen are safe, and, according to many competent observers, valuable remedies in adynamic cases.

Ammonia carbonate is only admissible in adynamic cases, and then only for a limited time.

Chlorate of potassium is dangerous in large doses. Its use should be limited to gargles and sprays.

The benzoates are of doubtful utility.

Sulpho carbolate of sodium is the author's resort in severe fever or throat symptoms. He gives 2 to 3 grains every three hours to a child four years old. It is valuable where suppuration has occurred in the throat.

Locally the best routine treatment is :

R.—Glycerini. 3j.
Sodii borat. pulv. 3j
Acidi carbolic. gr. xlvi.
Aquaæ rosæ. q. s. ad 3x.
M.—Sig. Spray for the throat, or gargle for older children.

Glycerine of carbolic acid, 1 to 5; may be cautiously applied to tonsillar exudations.

Ice, heat or steaming, may be used for tonsillar swelling.

If the rash fails to come out, and the temperature is high, use the hot pack with caution. Cold baths, affusions or packs may be cautiously employed.

Pilocarpine, veratrum and aconite are dangerous and seldom useful.

Six weeks is a fair average period for isolation; may be prolonged to nine by tardy desquamation, or shortened by soap-baths and scrubbing; but best by eucalyptus inunctions, safely reducing the time to one month.

Strumpell uses the ordinary antiseptic sprays and gargles. Continuous high fever requires a moderate use of the cold-water treatment; baths from 81° to 88°, two or three times a day, oftener in severe cases. Nervous symptoms or impeded respiration call for cold douches while in the bath. Wine or strong coffee is to be given as a stimulant, or, for collapse or heart failure, camphor subcutaneously. For rapid pulse and threatened heart failure, an ice bag over the heart, with digitalis cautiously. Scarlatinal rheumatism sometimes yields to sodium-salicylate in full doses.

Fothergill recommended the following for scarlatina anginosa :

R.—Potassii chloratis. gr. x.
Tinct. ferri chloridi. m_v.
Syr. zingiberis. 3j.
Aquaæ q. s. ad 3ss.

M.—S. One-sixth part every four hours, for a child eight to ten years old.

H. C. Wood pronounces aconite useful in the early stages, when not decidedly adynamic. He also speaks favorably of antipyrine and quinine in full doses. "In scarlet fever the testimony to the value of cold is very strong."

Fagge says : "In the more severe forms, stimulants are particularly needful, and cold affusion or bathing is the best method of combating hyperpyrexia."

Lauder Brunton speaks favorably of arsenic, when the tongue remains red and irritable during convalescence. Carbonate of ammonium in frequent doses is greatly recommended. In the advanced stages, with albuminuria and hematuria, the tincture of iron is very useful. The premature disappearance of the rash calls for a mustard bath. Permanganate of potassium is a useful agent for gargling. Purgatives are most useful to prevent albuminuria. The late Dr. Mahomed showed that the use of purgatives reduced the arterial tension that preceded albuminuria. When the throat is much affected, sulphurous acid is to be inhaled.

Hopwood sprays the throat with cocaine, four per cent., to relieve pain or swelling. Warm water gargles, or sucking ice often gives relief.

Ringer recommends chlorine water for sloughing throat; arsenic and nitric acid for persisting red tongue in convalescence; cold compresses to the throat throughout; ice to be sucked; gray powder for inflamed tonsils; packing throughout, especially on retrocession of rash; veratrum for convulsions.

Bourges and Wurtz (Annual Univ. Med. Sci., 1891) studied the angina in the Trousseau Hospital. They found in the false membrane the streptococcus pyogenes, pure or mixed, with microbes incidental to suppuration, but never the Klebs-Löffler bacillus special to diphtheria. This confirms the prediction made several years ago by Dr. Waugh, that the malignant angina of scarlatina would prove to be different from the true diphtheria. This opinion was based on differences in the effect of local remedies as used in the two throat afflictions, especially as to salicylic acid and its salts, which were found more efficacious in the scarlatinal angina than in the true diphtheria.

J. C. Wilson introduced hydrate of chloral as a remedy in scarlatina. His formula is:

R.—Chloralis..... gr. xxx.
Syr. lactucarii (Aubergier).

Aqua.....
M.—Sig. 3j. in iced water every 2, 3 or 4 hours. Food should be given immediately after each dose.

His argument in favor of chloral is as follows:

1. The treatment by chloral alone has been successful.
2. The chief action is sedation of the cerebral centers.

3. Chloral also exercises an antiseptic action on the throat, on the kidneys and on the body fluids generally.

4. Eliminated by the kidneys, chloral acts as a diuretic.

Rotch distrusts sulphur fumigation. He advises that the paper be scraped from the walls and burnt; the walls wet with 5 per cent. carbolic solution, and rubbed with bread; this being found by Esmarch the best substance to remove infectious material. The bread is to be burnt; the room aired for some days, and then painted; all six of its surfaces.

Mitchell pronounces the iodide of potassium in full doses, a very satisfactory remedy.

Phillips thinks rhus toxicodendron useful in typhoid states or in rheumatic cases.

DaCosta calls digitalis the best diuretic and anti-pyretic; and recommends the infusion with dry cups for the renal dropsy in its inception; later, milk diet and Basham's mixture.

Waring suggests chlorine-water as a prophylactic; asclepias to promote the eruption.

Hoyt thought the sulphate of zinc a specific, in doses of gr. $\frac{1}{8}$, every three hours.

Klebs advocates the benzoate of sodium as highly efficient; its impression on the fever being slower but more permanent than that of the salicylates.

Waugh recommends, as the greatest of all remedies, the freest possible ventilation of the sick-room; protecting the patient from drafts by inunctions and by screens. The lesson of the typhus cases, treated in sheds at the N. Y. Quarantine, has never been fully appreciated by the profession. The worst possible treatment is to shut the patient up closely and compel him to inhale an atmosphere poisoned by his own exhalations.

How to Prevent SCARLATINA.—Dr. J. Lewis Smith refers to the important facts regarding the propagation of this disease. It is contagious from the first day of its occurrence, continues so during desquamation, is probably propagated by ear discharge if disinfectants be not used. Its area of contagion is limited—but a few feet; on the other hand the tenacity of its poison is remarkable, adhering to persons and things, and thus being carried by physicians, nurses, visitors, clothing that has been stowed away a length of time, letters, library books, and also being retained in the hangings, furniture and wall paper of rooms, etc. The gases generated by burning sulphur are proved to be not efficient, although Dr. Squibb suggests that it is because they are used in too dry a state. The sulphur should be burned in a room, with boiling water. Chlorine generated by the

action of sulphuric acid on a mixture of common salt and black oxide of manganese is probably more efficient. But Dr. Smith asserts that methods for purifying rooms in which scarlet fever and diphtheria patients are confined can only be successful if preventive measures be employed during the continuance of the case. These consist in the use of disinfectants in the sick room, or upon the patient from the beginning of the disease. Isolation and disinfection are the measures to be relied upon. The floor and walls of the room should be bare; none but doctor and nurse should enter it; all books, toys, etc., used by the patient should afterward be burned; soiled clothing should be thoroughly disinfected; thorough ventilation secured; the air purified by vaporizing, in broad dish over a gas or oil stove, two tablespoonfuls of the following mixture: carbolic acid, 3j.; ol. eucalyptus, 5j.; spts. turpentine, 3vi.; the vaporizing to be continued uninterruptedly. The body should be anointed every three hours with carbolic acid, 3j.; ol. eucalyptus, 5j.; olive oil, 3vii. To the pharynx a solution of corrosive sublimate, two grains to a pint of water, may be applied as gargle or spray every two hours. It may also be injected into the nostrils. Articles of clothing should be disinfected. Physicians should be especially careful to preserve their clothing from contamination, and to cleanse themselves thoroughly before visiting other patients. They should impress upon the family the importance of careful disinfection of the room on the termination of the case. In addition to the ordinary measures it is advised to rub the walls of the apartment with slices of fresh bread which gather up microbes, and to wash, whitewash or kalsomine the walls, ceiling or floor with a solution of corrosive sublimate.—*Archives of Pediatrics.*

SCARLATINA.—During the invasion and at the beginning of the eruption, hyperpyrexia, extreme excitement, violent deliriums, rapidity of the pulse and dyspncea require the energetic use of cold water.

The cold sponging is only useful to decrease the sensation of heat of the skin and quite a moderate nervous excitement. When the danger is great and hyperpyrexia extreme, one must have recourse to affusion; under its influence the patient comes out of his torpor, resists and cries, his breathing becomes easier, the cyanosis disappears. When just back to bed, he generally goes to sleep. The affusion has sometimes to be repeated six to eight times during the day.

The cold bath is indicated when the fever persists, without oscillations, around 104° F., and is accompanied with cardiac and respiratory trouble. The duration of the bath should not exceed five to seven minutes for children; it is better to renew it than to make it longer, for there is danger of increasing collapse and weakening the heart. When this is to be feared the bath must be limited to two or three minutes, and small doses of caffein injected hypodermically.

If, for certain reasons, the cold bath cannot be used, a gradually cooled bath should be substituted. Its action, however, is less efficient, and it may cause shivering.—Guinon, in *Revue des Mal. de l'Enfance.*

PHILADELPHIA BOARD OF HEALTH.—PREVENTION AND RESTRICTION OF SCARLET FEVER.—Scarlet fever is a highly contagious disease, directly communicable from one person to another, or by infected clothing, rags, etc., or by the discharges from the body of a person sick with the disease. It is always

attended with a scarlet eruption on the skin, and is generally accompanied by a sore throat. When a child or young person has a sore throat and fever, and especially if it has an eruption of the skin, it should immediately be separated and kept secluded from all other persons except necessary attendants, until it be determined whether or not it has scarlet fever, or some other communicable disease.

During the progress of this disease, not only the eruption of the skin, but everything that is thrown off from the body of the sick, contains the germs or seeds of the disease, which are capable of propagating it in another person. The discharges from the nose and throat are especially dangerous. The secretions from the kidneys, which are frequently seriously affected in scarlet fever, and the discharges from the bowels are also supposed to be capable of spreading the poison, and this power may be retained for a long time. When these secretions have found their way into cesspools, sewers, heaps of decaying organic matter, etc., they may be still capable of giving off the poison and of spreading the disease. It is, therefore, of the greatest importance to destroy the poison before it leaves the sick room.

Attendants upon persons suffering from scarlet fever, and also the members of the patient's family, should not mingle with other people, nor should children be allowed to enter a house in which this disease exists. Children not believed to be infected should be sent away from the house in which scarlet fever exists, to families not liable to the disease; but they should be isolated from the public for at least fourteen days from the time of their removal. Children under ten years of age are in much greater danger of taking the disease, and after they do take it of dying from it than are grown persons. But adults sometimes have the disease, and even though it be in a mild form, they may communicate the disease in fatal form to children.

In cases of scarlet fever the following directions should be carried into effect:

1. Have the patient placed in one of the upper rooms of the house, the furthest removed from the rest of the family, where is to be had the best ventilation and isolation. The room should be instantly cleared of all curtains, carpets, woolen goods, and all unnecessary furniture. Keep the room constantly well ventilated, by means of open windows, and fires if necessary. Maintain the utmost cleanliness both with regard to the patient and in the room. A basin charged with chloride of lime, or some other efficient disinfectant, should be kept constantly on the bed for the patient to spit in. Change the clothing of the patient as often as needful, but do not carry it while dry through the house. A large vessel (as a tub) containing a solution of carbolic acid, in the proportion of 4 fluid ounces of clear carbolic acid to the gallon of water, or a solution of chloride of lime, in the proportion of half an ounce of the best chloride of lime to the gallon of water, should always stand in the room for the reception of all bed and body linen immediately on its removal from the person or contact with the patient. Pocket handkerchiefs should not be used, but small pieces of rag should be employed instead for wiping the mouth and nose; and each piece after being once used should be immediately burned. Two basins, one containing a solution of the purer quality of carbolic acid, in the proportion of half a fluid ounce to the quart of water, or of chlorinated soda, in the proportion of 2 fluid ounces to the quart of water, and the other containing plain water, and a good supply of towels, must always be

ready and convenient, so that the hands of the nurse may be at once disinfected and washed after they have been brought in contact with the patient. All glasses, cups, and other vessels used by or about the patient should be scrupulously cleansed before being used by others. The discharges from the bowels and kidneys are to be received, on their very issue from the body, into vessels containing some disinfectant, as a solution of 4 fluid ounces of carbolic acid to the gallon of water, or of 4 ounces of the best chloride of lime to the gallon of water, and immediately removed. No person should be allowed to enter the room, except those who are necessarily attending upon the sick. A sheet moistened with a strong solution of carbolic acid, suspended outside the door of the room, or across the passage-way leading to it, is useful to complete the isolation of the patient.

2. Food and drink that have been in the sick room should be at once destroyed or buried.

3. Do not kiss a person who has a sore throat, nor take his or her breath. Do not drink out of the same cup, nor use any article that has been used by such person.

4. For the purpose of preventing the spread of contagious particles from the surface of the body into the air, the skin should be anointed with oil or vaseline, commencing on the fourth day after the appearance of the eruption, and continuing every day until the patient is well enough to take a warm bath. These baths should be given every other day for four times. This proceeding should not, however, be adopted unless with the advice of the attending physician.

5. Boiling is one of the surest ways of disinfecting all contaminated clothing. After the clothing and bedding have been immersed for two hours in one of the solutions above advised for this purpose, they should be boiled for at least half an hour. Any material which cannot be washed without injury, should be exposed to a dry heat of about 240° Fahr., or fumigated in a closed chamber, as directed below. A hot-air disinfecting chamber has been provided on the hospital grounds, where beds, woolen goods, etc., may be disinfected under the direction of officers appointed by the Board. All articles which can be spared should be destroyed by fire. A furnace for this purpose has been constructed at the hospital grounds, and is at the disposal of the public, under suitable restrictions.

6. Burial of the dead from scarlet fever should be private, and the body should not be exposed to view. Newspaper notices of such death should state that the deceased person died of scarlet fever.

7. When persons have had scarlet fever, whether they get well or die, the room which they have occupied should be thoroughly cleaned and disinfected. The paper should be removed by moistening with carbolic acid solution, and the furniture and all surfaces should be thoroughly washed with a solution of clear carbolic acid, in the proportion of two fluid ounces to the gallon of water, or of chloride of lime, in the proportion of two ounces to the gallon of water. The walls and ceiling, if plastered, should be whitewashed with lime-wash containing the same proportion of carbolic acid. The floors and wood-work should be then thoroughly scrubbed with soap and hot water. As an additional precaution, fumigation with sulphurous acid gas may be practised. It should precede the washing of the surfaces. Close the doors, windows, and all other openings, and burn not less than three pounds of sulphur for each thousand cubic feet of air-space in the room. In order to insure complete combustion of the sulphur, it should be used in

the form of powder, or in small pieces, which should be placed in a shallow iron pan upon a couple of bricks set in a tub partly filled with water, to guard against fire. The sulphur should be moistened with alcohol before it is set on fire. Chlorine gas may be used instead, and may be generated by pouring strong sulphuric acid upon equal parts of common salt and binoxide of manganese, to which some water has been added. Finally, the room should be well aired for several days, by throwing open the doors and windows.

8. To disinfect a privy-vault or cesspool, use two and one-half pounds of chloride of lime for every eight gallons—or about one cubic foot—of fecal matter contained in the vault. It should be applied in solution.

9. In regard to food and medicine, always rely on the advice of a physician, who should be sent for as early as possible.

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Medical News and Miscellany.

FOR the week ending February 12, there were twenty-three cases of scarlatina reported in Cincinnati; and for the week ending February 19, forty-nine cases.

DURING January scarlatina took 4 lives in San Francisco, 64 in Chicago, 1 in Grand Rapids, 2 in Cleveland, 14 in Albany.

For the week ending February 13, there were 30 deaths from scarlatina in New York City, 19 in Chicago, 11 in Brooklyn, 6 in St. Louis, 3 in Boston, 13 in Baltimore, 3 in Minneapolis, 2 each in Detroit, Milwaukee, Providence, 1 each in Cleveland, Pittsburgh and Louisville.

AMONG the infectious diseases reported to the Ohio State Board of Health in fifty-four cities and towns during the week ending February 19, 1892, were the following from scarlet fever:

	Cases.
Bellefontaine.....	7
Chillicothe.....	5
Cincinnati.....	49
Cleveland.....	8
Columbus.....	7
Coshocton.....	12
Elmore.....	3
Elmwood.....	2
Fairfield.....	1
Gallipolis.....	2
Greenville.....	3
Lima.....	1
Logan.....	2
Madisonville.....	2
New Lexington.....	1
Ohio City.....	5
Portsmouth.....	2
Springfield.....	2
Toledo.....	9
Urbana.....	2
Wooster.....	3
Wyoming.....	1
Youngstown.....	11

—Lancet Clinic.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—The Chair of Obstetrics has become vacant through the resignation of Dr. E. E. Montgomery, who will hereafter devote himself entirely to the Chair of Gynecology.

A DEATH from hydrophobia is said to have occurred in Philadelphia. Judging from the newspaper accounts, there was no reason whatever for such a diagnosis, which was said to have been made by a Dr. Franklin.

IN the *Open Court*, Dr. Clevenger calls attention to the failure of women as watchmakers. It is said that while women are efficient in the delicate manipulations required in this work, when it comes to the assembling of the pieces together and the minute adjustment and general horological judgment, they have proven themselves incapable.

THE body of Dr. Robert G. Mitter, who disappeared from his home, 12 West 12th Street, Chicago, the day before Christmas, was found in the river at the 12th street bridge. The face was entirely unrecognizable, but a search of the clothing proved beyond doubt that it was the missing doctor. There was nothing to indicate that the physician had met with foul play.

Dr. Mitter left his home the night of December 24th, 1891, and although an energetic search was made for him nothing was heard of him.

DRS. H. W. STELWAGON and J. L. Hatch have reprinted from the *Journal of Cutaneous and Genito-Urinary Diseases*, a study of Mycosis Fungoides, with a report of two cases illustrated with a fine colored plate.

The study of dermatology has certainly made great advances since the writer was a student. At that time he heard a lecturer who occupied a chair similar to that now filled by Dr. Stelwagon, state that skin diseases were very rare in America; and that of those seen here, more than half were syphilis and the rest eczema.

NEW BUILDINGS FOR THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—The Board of Trustees and the Faculty of the Jefferson Medical College have just completed the purchase of two large lots on Broad street, giving them a frontage of about 300 feet and a depth of 150 feet, upon which they will proceed to erect at once a handsome hospital, lecture hall and laboratory building. The estimated cost of the buildings is \$500,000. The hospital will be built not only as a suitable building in which to care for the sick and injured, but also will be provided with a large amphitheatre for clinical lectures. The basement of the hospital will be given over to the various dispensaries, each of which will be provided with large waiting and physicians' rooms, as well as rooms for direct teaching of students. The buildings will be absolutely fire-proof, and provided with patent sprinklers, in case their contents catch fire. By the erection of three commodious buildings, the laboratories where delicate work with the microscope or apparatus is carried on will be separated from the college hall, where didactic lectures are given, and so will be free from any jarring produced by the movement of the large classes. With the hospital on one side, affording clinical facilities, and the laboratory on the other side of the college hall, for scientific research and training, the college will be most favorably situated for giving thorough instruction in medicine. Further than this, immediately across the street is the Howard Hospital, and on the adjoining corner the Ridgeway branch of the Philadelphia Free Library, which contains all the scientific works belonging to this wealthy corporation. The new site is even more favorably situated in regard to the center of the city than the old one at Tenth and Sansom streets. The move has been made necessary by the large number of students who are now being instructed in this institution, and because the Faculty desire to keep the school and hospital in the foremost rank of medical education in this country. The buildings will be ready for occupancy in the session of '93-'94.

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